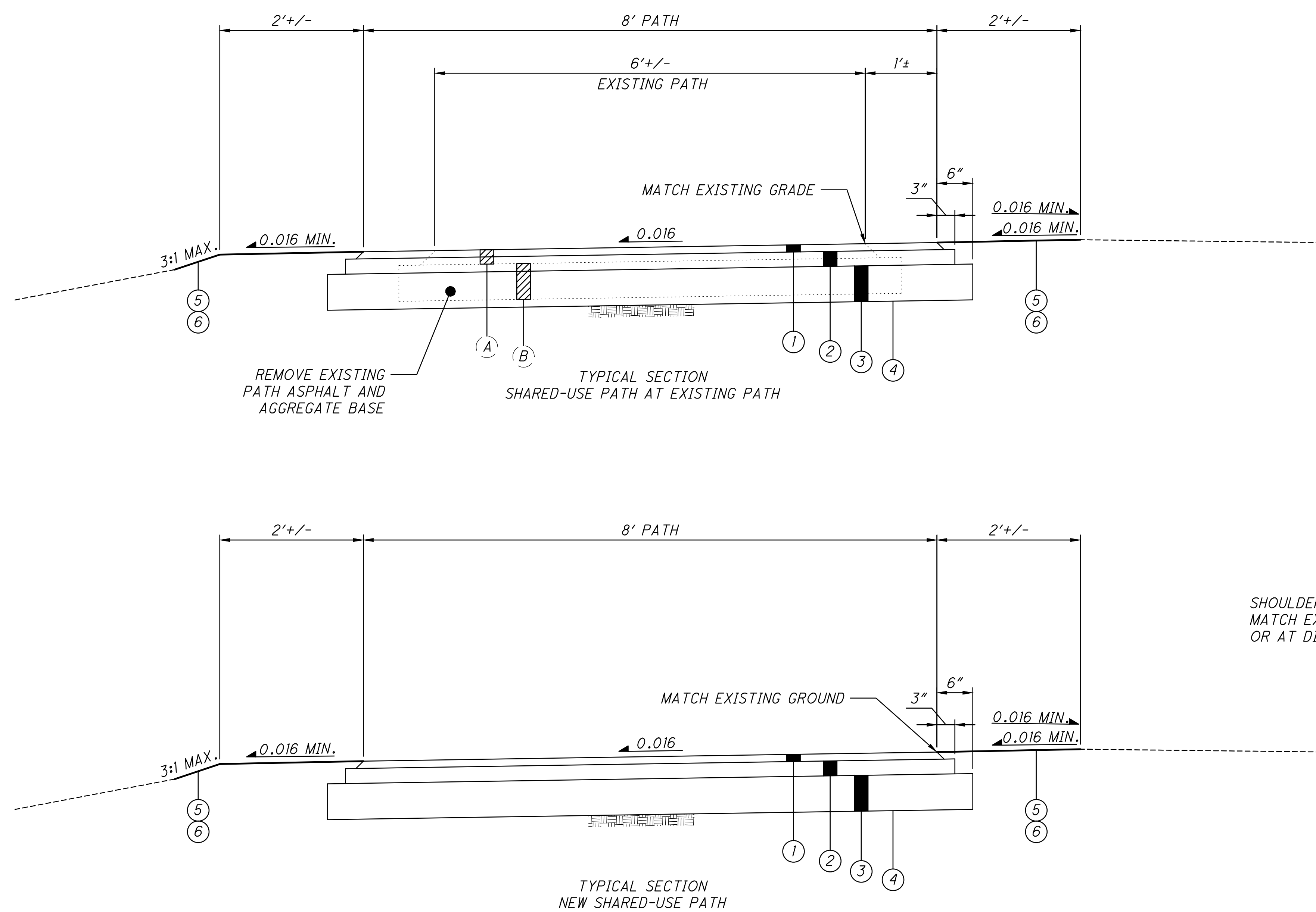


LEGEND

- ① ITEM 448 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22, MEDIUM TRAFFIC (8' WIDE)
- ② ITEM 301 - 3" ASPHALT CONCRETE BASE, PG64-22 (8.5' WIDE)
- ③ ITEM 304 - 6" AGGREGATE BASE (9' WIDE)
- ④ ITEM 204 - SUBGRADE COMPACTION
- ⑤ ITEM 659 - SEEDING AND MULCHING, AS PER PLAN
- ⑥ ITEM 653 - 3" TOPSOIL FURNISHED AND PLACED, AS PER PLAN
- (A) 2 1/2"± EXISTING ASPHALT
- (B) 6"± EXISTING AGGREGATE



SHOULDER: GRADE DRAINAGE TO
MATCH EXISTING GRADE DIRECTION
OR AT DIRECTION OF ENGINEER

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GENERAL NOTES

1. CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION, AND ANY SUPPLEMENTS THERETO (HEREAFTER REFERRED TO AS STANDARD SPECIFICATIONS) AND CITY OF DUBLIN SECTION 100, SHALL GOVERN ALL CONSTRUCTION ITEMS UNLESS OTHERWISE NOTED. ITEM NUMBERS LISTED REFER TO CITY OF COLUMBUS ITEM NUMBERS UNLESS OTHERWISE NOTED.
2. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION THAT ARE NOT SPECIFIED HEREIN. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR SAFETY ON THE WORK SITE, OR FOR FAILURE BY THE CONTRACTOR TO PERFORM WORK ACCORDING TO CONTRACT DOCUMENTS.
3. THE CITY SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS.
4. THE CONTRACTOR SHALL NOTIFY THE CITY OF DUBLIN DIVISION OF ENGINEERING IN WRITING AT LEAST 3 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. THE CONTRACTOR SHALL EXERCISE PRECAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.
6. FOLLOWING COMPLETION OF CONSTRUCTION OF THE SITE IMPROVEMENTS AND BEFORE REQUESTING OCCUPANCY, A PROOF SURVEY SHALL BE PROVIDED TO THE DIVISION OF ENGINEERING THAT DOCUMENTS "AS BUILT" ELEVATIONS, DIMENSIONS, SLOPES AND ALIGNMENTS OF ALL ELEMENTS OF THIS PROJECT. THE PROOF SURVEY SHALL BE PREPARED, SIGNED AND SUBMITTED BY THE PROFESSIONAL ENGINEER WHO SEALED THE CONSTRUCTION DRAWINGS.
7. THE CONTRACTOR SHALL RESTRICT CONSTRUCTION ACTIVITY TO PUBLIC RIGHT OF WAY AND AREAS DEFINED AS PERMANENT AND/OR TEMPORARY CONSTRUCTION EASEMENTS, UNLESS OTHERWISE AUTHORIZED BY THE CITY ENGINEER.
8. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES AND OTHER SURVEY REFERENCE MONUMENTS OR MARKERS. IN CASES OF WILLFUL OR CARELESS DESTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATIONS. RESETTNG OF MARKERS SHALL BE PERFORMED BY AN OHIO PROFESSIONAL SURVEYOR AS APPROVED BY THE CITY ENGINEER.
9. NONRUBBER TIRED VEHICLES SHALL NOT BE MOVED ON OR ACROSS PUBLIC STREETS OR HIGHWAYS WITHOUT THE WRITTEN PERMISSION OF THE CITY ENGINEER.
10. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN EXISTED BEFORE CONSTRUCTION. DRAINAGE DITCHES OR WATERCOURSES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THE GRADES AND CROSS SECTIONS THAT EXISTED BEFORE CONSTRUCTION.
11. TRACKING OR SPILLING MUD, DIRT OR DEBRIS UPON STREETS, RESIDENTIAL OR COMMERCIAL DRIVES, SIDEWALKS OR BIKE PATHS IS PROHIBITED ACCORDING TO SECTION 97.38 OF THE DUBLIN CODE OF ORDINANCES. ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE CITY. IF THE CONTRACTOR FAILS TO REMOVE SAID MUD, DIRT, DEBRIS, OR SPILLAGE, THE CITY RESERVES THE RIGHT TO REMOVE THESE MATERIALS AND CLEAN AFFECTED AREAS, THE COST OF WHICH SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
12. ALL SIGNS, LANDSCAPING, STRUCTURES OR OTHER APPURTENANCES WITHIN RIGHT-OF-WAY DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER. THE COST OF THIS WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

13. ALL FIELD TILE BROKEN OR ENCOUNTERED DURING EXCAVATION SHALL BE REPLACED OR REPAIRED AND CONNECTED TO THE PUBLIC STORM SEWER SYSTEM AS DIRECTED BY THE CITY ENGINEER. THE COST OF THIS WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. ALL PRECAST CONCRETE PRODUCTS SHALL BE INSPECTED AT THE LOCATION OF MANUFACTURE. APPROVED PRECAST CONCRETE PRODUCTS WILL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT INSPECTION HAS BEEN CONDUCTED BY THE CITY OF COLUMBUS. PRECAST CONCRETE PRODUCTS WITHOUT PROOF OF INSPECTION SHALL NOT BE APPROVED FOR INSTALLATION.
15. BACKFILL WITHIN A 1:1 INFLUENCE LINE OF EXISTING STRUCTURES (HOUSES, GARAGES, ETC.) OR PUBLIC INFRASTRUCTURE (PAVEMENT, CURBS, SIDEWALKS, BIKE PATHS, ETC.) SHALL BE COMPACTED GRANULAR BACKFILL ACCORDING TO ITEM 912 OF THE STANDARD SPECIFICATIONS OR FLOWABLE CDF, TYPE II ACCORDING TO ITEM 613. ITEM 911 OF THE STANDARD SPECIFICATIONS SHALL BE USED ELSEWHERE.
16. ALL TRENCHES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE BACKFILLED ACCORDING TO THE APPROVED CONSTRUCTION DRAWINGS OR SECURELY PLATED DURING NONWORKING HOURS. TRENCHES OUTSIDE THESE AREAS SHALL BE BACKFILLED OR SHALL BE PROTECTED BY APPROVED TEMPORARY FENCING OR BARRICADES DURING NON-WORKING HOURS. CLEAN UP SHALL FOLLOW CLOSELY BEHIND THE TRENCHING OPERATION.
17. ALL TREES WITHIN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED, WHETHER SHOWN OR NOT SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. TREES TO BE PRESERVED SHALL BE PROTECTED WITH HIGH VISIBILITY FENCING PLACED A MINIMUM 15 FEET FROM THE TREE TRUNK. TREES 6 INCHES OR GREATER AT DBH (DIAMETER BREST HEIGHT) MUST BE PROTECTED WITH FENCING PLACED AT THE CRITICAL ROOT ZONE OR 15 FEET, WHICHEVER IS GREATER, OR AS DIRECTED BY THE ENGINEER.
18. PAVEMENTS SHALL BE CUT IN NEAT, STRAIGHT LINES THE FULL DEPTH OF THE EXISTING PAVEMENT, OR AS REQUIRED BY THE CITY ENGINEER. PAVEMENT REPLACEMENT SHALL BE CONDUCTED ACCORDING TO CITY OF COLUMBUS STANDARD DRAWING 1441 DR. A AND APPLICABLE CITY OF DUBLIN STANDARD DRAWINGS. THE REPLACEMENT OF DRIVEWAYS, HANDICAPPED RAMPS, SIDEWALKS, BIKE PATHS, PARKING LOT PAVEMENT, ETC. SHALL BE PROVIDED ACCORDING TO THE APPROVED CONSTRUCTION DRAWINGS AND CITY OF DUBLIN STANDARD CONSTRUCTION DRAWINGS.
19. ANY MODIFICATION TO THE WORK SHOWN ON DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE CITY ENGINEER, CITY OF DUBLIN.
20. ALL INLETS SHALL BE CHANNELIZED.
21. TRAFFIC CONTROL AND OTHER REGULATORY SIGNS SHALL BE TYPE S WITH A SQUARE POST ANCHOR BASE INSTALLATION AND MEET ALL REQUIREMENTS OF ODOT TC-41.20 AND APPLICABLE CITY OF DUBLIN SPECIFICATIONS.
22. THE CONTRACTOR INTENDING TO SUBMIT A BID FOR CITY OF DUBLIN (HEREAFTER REFERRED TO AS "CITY") CAPITAL IMPROVEMENT CONTRACTS SHALL BE PREQUALIFIED WITH THE OHIO DEPARTMENT OF TRANSPORTATION IN ACCORDANCE WITH SECTION 102 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND CHAPTER 5525 OF THE OHIO REVISED CODE CONCERNING CONSTRUCTION CONTRACTS.
23. ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.
24. IT IS THE INTENTION OF THE CONTRACT DOCUMENTS TO PROVIDE AND REQUIRE A COMPLETED PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM THE CONTRACT DOCUMENTS WHICH ARE CLEARLY NECESSARY FOR COMPLETION OF THE WORK AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK, THOUGH NOT DIRECTLY SPECIFIED OR CALLED FOR IN THE CONTRACT DOCUMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, SUCH INCIDENTAL ITEMS AS RELOCATION OF MAIL BOXES, SAW CUTTING, AND REMOVAL AND/OR RELOCATION OF SIGNS, SPRINKLERS, OR OTHER MISCELLANEOUS ITEMS.

25. THE COST OF ALL ASPHALT PAVEMENT REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR ITEM 203, EXCAVATION, AS PER PLAN.
- UTILITIES
1. THE FOLLOWING UTILITIES ARE KNOWN TO BE LOCATED WITHIN THE LIMITS OF THIS PROJECT:
- AMERICAN ELECTRIC POWER
ELECTRIC & STREET LIGHTING
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
PAUL PAXTON
PHONE 614-883-6831
FAX 614-883-6868
CELL 614-949-8883
PTPAXTON@AEP.COM
- AT&T (CONDUIT)
111 NORTH 4TH STREET
ROOM 802
COLUMBUS, OHIO 43215
GARY VAN ALMSICK
PHONE 614-223-7276
GV2758@ATT.COM
- COLUMBIA GAS OF OHIO
3350 JOHNNY APPLESEED CT.
COLUMBUS, OHIO 43231
MATT MYERS
MMYERS@NISOURCE.COM
- TIME WARNER COMMUNICATIONS
3760 INTERCHANGE ROAD
COLUMBUS, OHIO 43204
RAY MAURER
PHONE 614-481-5262
FAX 614-255-6428
PAGER 614-640-6915
CELL 614-348-2979
RAY.MAUERER@TWCABLE.COM
- TW TELECOM INC.
250 WEST OLD WILSON BRIDGE RD.
SUITE 130
WORTHINGTON, OHIO 43085
MARK BLACKBURN
PHONE 614-255-2148
MARK.BLACKBURN@TWTELECOM.COM
- WIDE OPEN WEST
3675 CORPORATE DRIVE
COLUMBUS, OH 43231
ROBERT CARPENTER
PHONE 614-948-4665
CELL 614-937-4313
R.CARPENTER20@WIDEOPENWEST.COM
- CITY OF DUBLIN
WATER, STORM, SANITARY, LIGHTING
5800 SHIER RINGS ROAD
DUBLIN, OH 43016
KEN RICHARDSON, PE, PS
PHONE 614-410-4631
KRICHARDSON@DUBLIN.OH.US
2. THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO OHIO UTILITIES PROTECTION SERVICE (TELEPHONE NUMBER 800-362-2764 OR 8-1-1), AND TO OWNERS OF UNDERGROUND UTILITIES THAT ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE. NOTICE SHALL BE GIVEN AT LEAST 2 WORKING DAYS BEFORE START OF CONSTRUCTION.
3. THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. THE CITY OF DUBLIN AND THE CITY ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF THE SAME AND FOR ANY RESULTING CONTINGENT DAMAGE.

4. LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES, WHETHER SHOWN OR NOT SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. WHEN UNKNOWN OR INCORRECTLY LOCATED UNDERGROUND UTILITIES ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND THE CITY ENGINEER.
6. PUBLIC STREET LIGHTING MAY BE IN THE VICINITY OF THIS PROJECT. CONTACT THE CITY OF DUBLIN, DIVISION OF ENGINEERING AT 410-4637, TWO DAYS PRIOR TO BEGINNING WORK.
- ITEM 608 CURB RAMPS
ITEM 608 DETECTABLE WARNING PANELS BY TURFTILE, 2'X8', BRICK RED
AMERICANS WITH DISABILITIES ACT (ADA)
- ALL SIDEWALKS, PEDESTRIAN PATHS, CURB RAMPS, AND DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAGG).
- THE ELEVATIONS AND SLOPES PROVIDED ON THE DRAWINGS ARE INTENDED TO CONVEY A DESIGN THAT IS COMPATIBLE WITH ADA GUIDELINES. THE CONTRACTOR SHALL DETERMINE THE EXISTING ELEVATIONS OF ADJACENT NEW OR EXISTING CONCRETE CURB AND ADJACENT NEW OR EXISTING WALK PRIOR TO THE START OF RAMP CONSTRUCTION. ADJUSTMENTS IN GRADE SHALL BE MADE BY THE CONTRACTOR BASED ON THE ELEVATION INFORMATION TO INSURE THAT THE FINISHED WORK IS IN ACCORDANCE WITH ADA GUIDELINES.
- ALL DETECTABLE WARNINGS SHALL BE BY TUFTILE, A WET-SET CAST IRON (REPLACEABLE) TILE. BRICK RED COLOR SHALL BE USED, FED. #22/44. THE COST OF THIS WORK WILL BE PAID AT THE UNIT PRICE BID PER EACH, AND SHALL BE IN ADDITION TO ANY OVERLAPPING PAYMENTS PER SQUARE FOOT FOR SIDEWALK OR PEDESTRIAN PATH.
- ITEM 653 TOPSOIL FURNISHED AND PLACED, AS PER PLAN
- A MINIMUM OF 3 INCHES OF TOPSOIL SHALL BE PLACED IN ALL AREAS TO BE SEEDED. PRIOR TO PLACING TOPSOIL IN CUT AREAS, THE EARTH SHALL BE EXCAVATED TO A DEPTH SUFFICIENT TO PLACE 3 INCHES OF TOPSOIL UNLESS DIRECTED BY THE ENGINEER. THE COST OF EXCAVATION AND DISPOSAL OF SURPLUS MATERIALS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE VARIOUS CONTRACT ITEMS.
- TOPSOIL SHALL BE REMOVED AND WASTED OR UTILIZED IN NON-LOAD BEARING FILLS IN ACCORDANCE WITH THE SPECIFICATIONS. NO EXTRA COMPENSATION SHALL BE PAID FOR THE REMOVAL OF EXCESS TOPSOIL AS REQUIRED TO OBTAIN A SUITABLE SUBGRADE. PAYMENT FOR TOPSOIL REMOVAL IS INCLUDED IN ITEM 203 EXCAVATION.
- ALL TOPSOIL MATERIALS AND FINAL AREA OF SUBGRADE PREPARATION SHALL BE FREE FROM ROCK AND OTHER FOREIGN MATERIAL 1/2 INCH OR GREATER IN ANY DIMENSION.
- WORK LIMITS
- THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THE WORK LIMITS.
- COORDINATES AND VERTICAL DATUM
- COORDINATES ARE OHIO STATE PLANE SOUTH ZONE. ALL THOSE POINTS WHICH ACTUALLY LIE IN THE NORTH ZONE HAVE COORDINATES PROJECTED INTO THE SOUTH ZONE. ELEVATIONS ARE BASED ON NAVD88 VERTICAL DATUM.
- ITEM 604 MANHOLE, TYPE C, AS PER PLAN
- CONSTRUCT MANHOLE, TYPE C WITH FLAT SLAB TOP PER COC STD DWG AA-S107 INSTEAD OF CONE TOP DUE TO SHALLOW DEPTH.

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CONSTRUCTION NOISE

ANY DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT. THE CONTRACTOR'S CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED SO AS TO ELIMINATE ALL UNNECESSARY NOISE, DUST, AND ODORS. THE USE OF OIL OR OTHER MATERIAL FOR DUST CONTROL, WHICH MAY CAUSE TRACKING, IS NOT PERMITTED.

ITEM 659 SEEDING AND MULCHING, AS PER PLAN

SEED - CERTIFICATION OF GRASS SEED SHALL BE PROVIDED BY SEED VENDOR FOR EACH GRASS-SEED MIXTURE STATING THE BOTANICAL AND COMMON NAME, PERCENTAGE BY WEIGHT OF EACH SPECIES AND VARIETY; AND PERCENTAGE OF PURITY, GERMINATION, AND WEED SEED. INCLUDE THE YEAR OF PRODUCTION AND DATE OF PACKAGING. FURNISH NATIONAL TURFGRASS EVALUATION PROGRAM (NTEP) DATA FOR EACH SPECIES TO BE USED.

GRASS SEED MUST BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH THE A.O.S.A. "JOURNAL OF SEED TECHNOLOGY" RULES FOR TESTING SEEDS FOR PURITY AND GERMINATION TOLERANCES.

SEED SPECIES SHALL BE AS FOLLOWS, WITH NOT LESS THAN 90 PERCENT GERMINATION, NOT LESS THAN 98 PERCENT PURE SEED, AND NOT MORE THAN 0.5 PERCENT WEED SEED.

TURFGRASS SEED MIX PROPORTIONED BY WEIGHT:

- A. 80 PERCENT TALL FESCUE (FESTUCA ARUNDINACEA), WITH A MINIMUM OF 3 IMPROVED TURF-TYPE VARIETIES. KENTUCKY-31 AND ALTA VARIETIES ARE NOT APPROVED.
- B. 20 PERCENT PERENNIAL RYEGRASS (LOLIUM PERENNE).

SEEDING - SOW SEED AT A TOTAL RATE OF 7-9 LB. / 1,000 SF WITH A SPREADER OR SEEDING MACHINE. RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF SOIL, ROLL LIGHTLY, AND WATER WITH FINE SPRAY. THOROUGHLY COVER WITH STRAW.

HYDRO-SEEDING & HYDRO-MULCHING ARE NOT PERMITTED.

TURF MAINTENANCE - MAINTAIN AND ESTABLISH TURF BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, AND REPLANTING TO ESTABLISH HEALTHY, VIABLE TURF. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH TURF. PROVIDE THE SAME MATERIALS AND INSTALLATION AS THOSE USED IN THE ORIGINAL INSTALLATION.

MOW TURFGRASS SEED MIX AREAS AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIED HEIGHT WITHOUT CUTTING MORE THAN 1/3 OF GRASS HEIGHT. MOW AREAS TO A HEIGHT OF 2 TO 3 INCHES.

ITEM 659 WATER

WATER AT LEAST 2 TIMES PER WEEK FOR A MINIMUM OF 4 WEEKS. WATER TURF WITH FINE SPRAY AT A MINIMUM RATE OF 1 INCH PER WEEK UNLESS RAINFALL PRECIPITATION IS ADEQUATE.

ITEM 202 GATE REMOVED AND REERECTED

ITEM 607 GATE INSTALLED, AS PER PLAN

ITEM 607 FENCE, AS PER PLAN

PROPOSED FENCE IS TO BE SIMILAR IN DESIGN AND APPEARANCE TO THE EXISTING FENCE BEING REMOVED BY THIS PROJECT. BOARD MATERIAL SHALL BE PRESSURE TREATED LUMBER. NOMINAL WIDTH AND THICKNESS OF THE BOARDS IS 6 INCHES BY 1 INCH. POSTS ARE NOMINAL 4 INCH SQUARE; POST MATERIAL SHALL BE PRESSURE TREATED LUMBER.

FENCE TO BE PRIMED AND PAINTED THE COLOR "WOLF GREY" AS SUPPLIED BY SHERWIN-WILLIAMS PAINT - KING AVENUE COMMERCIAL STORE 614-299-2116. FIRST USE PRINTER PAINT COAT PRO-CRYL. THEN APPLY TWO COATS OF WOODSCAPES PAINT ON THE TREATED TIMBER OVER THE PRO-CRYL PRIMER. EACH COAT TO BE APPLIED IN A UNIFORM, CONSISTENT, AND EVEN APPLICATION ON THE SURFACE. WOODSCAPES PAINT SHALL BE APPLIED IN TWO COATS, EACH WITH A MINIMUM 2.0 MILL DRY FILM THICKNESS FOR EACH COAT. PAINT SHALL BE HIGH QUALITY, ALL WEATHER PAINT SUITABLE FOR USE ON TIMBER RAIL AND WOOD POSTS.

ITEM 607 GATE INSTALLED, AS PER PLAN

THE GOLF CART PATH - WEST END (STA. 15+30) TEMPORARY ALIGNMENT ACROSS GLICK ROAD WILL CREATE TWO OPENINGS IN THE EXISTING MUIRFIELD FENCE. THE EXISTING GATE NEAR THE EAST TUNNEL (STA. 33+60) SHALL SERVE AS THE MODEL TO CONSTRUCT TWO NEW GATES AT THE TEMPORARY ALIGNMENT ACROSS GLICK ROAD AT THE WEST END. COST OF DESIGN, LABOR, PAINT AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607 GATE INSTALLED, AS PER PLAN.

ITEM 203 EXCAVATION, AS PER PLAN

TREE ROOTS ENCOUNTERED DURING EXCAVATION; ESPECIALLY ALONG THE EXISTING BIKE PATH ALIGNMENT WHERE TREES ARE IN CLOSE PROIMITY TO THE PATH; SHALL BE REMOVED IN LOCATIONS WHERE THEY INTERFERE WITH THE PLACEMENT OF ITEM 304. ROOTS SHALL BE NEATLY SAWED (FREE OF SPLINTERS, SPLITS, AND BURNS) AND REMOVED TO A DEPTH THAT WOULD MAINTAIN AT LEAST FOUR (4) INCHES OF ITEM 304 BELOW ITEM 301. CARE SHALL BE TAKEN WHEN EXCAVATING TO NOT DISTURB ROOT SYSTEMS THAT ARE BELOW SUBBASE ELEVATIONS.

SUBGRADE

WHERE SOFT SUBGRADE IS ENCOUNTERED DUE TO NO FAULT OF THE CONTRACTOR, AND SATISFACTORY COMPACTION CANNOT BE OBTAINED, THE UNSTABLE MATERIAL SHALL BE REMOVED AND REPLACED PER SECTION 204.04. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED AS AN ALLOWANCE FOR BIDDING PURPOSES.

ITEM 204 EXCAVATION OF SUBGRADE 125 CU.YD.

ITEM 204 GRANULAR EMBANKMENT, NO. 2 STONE 125 CU.YD.

ITEM 608 6" CONCRETE WALK, AS PER PLAN

ITEM 608 8" CONCRETE WALK, AS PER PLAN

ITEM 609 COMBINATION CONCRETE CURB AND GUTTER, AS PER PLAN

CONSTRUCT CONCRETE CURB AND GUTTER PER CITY STANDARD DRAWING RD-02 AND COLUMBUS SPECIFICATION 608. COST OF ALL ITEMS SHOWN IN RD-02, INCLUDING THE 4" SUB-DRAIN, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 608 COMBINATION CONCRETE CURB AND GUTTER, AS PER PLAN.

FULL DEPTH EXPANSION MATERIAL ONE HALF (1/2) INCHES THICK CONFORMING TO ASTM D 1752, TYPE 1 (RECYCLED RUBBER EXPANSION MATERIAL) SHALL BE UTILIZED WHERE NEW WORK MEETS CURBS OR STRUCTURES. FIBROUS TYPE EXPANSION MATERIAL IS NOT TO BE USED.

THIS MATERIAL WILL BE USED BETWEEN THE CURB RAMP AND CURB AND GUTTER. COST IS TO BE INCLUDED IN THE UNIT PRICES BID FOR THE CONCRETE CURB, CURB RAMP, AND CONCRETE WALK ITEMS.

TREE BRANCH REMOVAL

THE CONTRACTOR SHALL COMMUNICATE WITH THE ENGINEER BEFORE ANY TREE BRANCHES ARE REMOVED AND DISCUSS IF TREE BRANCHES INTERFERE WITH TRUCK AND EQUIPMENT MOVEMENT ALONG THE ALIGNMENT OF THE SHARED-USE PATH. IF IT IS AGREED THAT TREE BRANCHES CAN NOT BE TEMPORARILY RESTRAINED - WITH THE ENGINEER'S APPROVAL - THE BRANCHES MAY BE PROFESSIONAL AND CAREFULLY REMOVED BY THE CONTRACTOR - ON A TREE BY TREE BASIS. TREE TRIMMING WITHIN THE CONSTRUCTION LIMITS IS TO BE COMPLETED BY A CERTIFIED ARBORIST. RESTRAINING AND/OR PROFESSIONALLY REMOVING BRANCHES SHALL BE PERFORMED BY THE CONTRACTOR WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.

ITEM SPECIAL 8" REINFORCED CONCRETE SLAB

WHERE SHOWN IN THE PLANS, PLACE AN 8 INCH REINFORCED CONCRETE SLAB TO COMPLETELY COVER THE TOP OF THE EXISTING CATCH BASIN. THE SLAB SHALL BE A MINIMUM OF 8 INCHES THICK AND BE DESIGNED TO WITHSTAND TRAFFIC LOADING. COST OF DESIGN, LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, 8" REINFORCED CONCRETE SLAB.

ITEM SPECIAL ADS N-12 FLARED END SECTION WITH

DISSIMILAR COUPLER

HDPE FLARED ENDS CALLED FOR IN THE PLANS SHALL BE ADVANCED DRAINAGE SYSTEMS (ADS) "FLARED END SECTIONS", OR APPROVED EQUAL, WITH PE THREADED RODS AND WING NUTS. N-12 DISSIMILAR COUPLING FOR CONNECTION TO CONCRETE PIPE SHALL BE INCLUDED IN THE PER EACH PRICE BID FOR THE FLARED END SECTIONS.

DRAINAGE

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES STORM SEWER, DRAIN, AND DITCH FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PUT INTO SERVICE. THE FLOW OF ALL STORM SEWER, DRAINS, AND OTHER WATERCOURSES ENCOUNTERED AND DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO A CONDITION SATISFACTORY TO THE CITY ENGINEER. PAYMENT FOR THIS SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

WHERE THE WORK CALLS FOR RELOCATION OF EXISTING DITCHES OR STORM SEWER, THE CONTRACTOR SHALL REESTABLISH THE OUTLETS OF ALL PRIVATE DRAINS ENCOUNTERED; SUCH AS DOWNSPOUTS, FOUNDATION DRAINS, CATCH BASINS, YARD DRAINS, ETC., INTO THE NEAREST NEW DITCH OR STORM SEWER. THE COST FOR REESTABLISHING PRIVATE DRAIN OUTLETS SHALL BE INCLUDED IN THE VARIOUS STORM SEWER ITEMS.

ITEM 601 ROCK CHANNEL PROTECTION, NO. 2 STONE WITH FILTER FABRIC SHALL BE PROVIDED AT THE OUTLET END OF STORM SEWERS AT THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS. ITEM 601 MATERIALS SHALL CONSIST OF NATURAL, BROKEN, OR CRUSHED ROCK. BROKEN CONCRETE MATERIALS ARE UNACCEPTABLE. THE FILTER UNDERLYING ROCK CHANNEL PROTECTION SHALL BE FILTER FABRIC AS PER SECTION 601.09.

ALL EXISTING AND PROPOSED CASTINGS SHALL BE ADJUSTED TO MATCH THE SURROUNDING FINISH GRADE BY THE CONTRACTOR. TOP OF CASTING ELEVATIONS PROVIDED ON THE PLANS ARE APPROXIMATE. THE COST OF ALL CASTING ADJUSTMENTS SHALL BE INCLUDED IN THE VARIOUS SEWER ITEMS.

WHERE BACKFILLING WITH CONCRETE AROUND A STORM SEWER PIPE IS DETERMINED TO BE NECESSARY, BY EITHER CALL OUT ON THE PLANS OR AS DIRECTED BY THE ENGINEER, THE WORK SHALL BE IN ACCORDANCE WITH THE CITY OF COLUMBUS STANDARD DRAWING AA-S151, TYPE 1 BEDDING FOR RIGID SEWER PIPE USING CLASS "A" CONCRETE. THE TOTAL LENGTH OF BACKFILL SHALL BE FOR ALL EXPOSED PORTIONS OF PIPE, OR AS DIRECTED BY THE ENGINEER.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY ENGINEER.

PAYMENT FOR ALL INSPECTIONS, CLEANING, AND MAINTENANCE OF EXISTING AND NEW STORM SEWER DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT CONTRACT ITEMS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS CALL FOR CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES FOR BOTH LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT OR EXISTING APPURTENANCE TO BE CONNECTED DIFFERS FROM THE PLAN ELEVATION, THE CITY ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE

AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT A PROPOSED CONDUIT WILL CONFLICT WITH AN EXISTING SEWER OR UNDERGROUND UTILITY WHEN CONSTRUCTED AS SHOWN ON THE PLAN, THE CITY ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION ON ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE CONFLICT.

PAYMENT FOR DETERMINATION OF LINE AND GRADE OF EXISTING UTILITIES AS REQUIRED SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT CONTRACT ITEMS.

CONSTRUCTION SCHEDULE

DUE TO THE MEMORIAL TOURNAMENT, MAY 30 TO JUNE 5, 2016; NO CONSTRUCTION WORK; NO CONSTRUCTION FENCE; NO STORING OF EQUIPMENT OR SUPPLIES; SHALL BE PERMITTED ON THE PROJECT UNTIL JUNE 6, 2016.

BEGINNING JUNE 6, 2016 - CONSTRUCT TEMPORARY CROSSWALK LOCATIONS ON GLICK ROAD AT BOTH TUNNEL LOCATIONS. THE TEMPORARY CROSSWALKS AND TEMPORARY GOLF PATHS SHALL BE FULLY FUNCTIONAL AND GOLF PATRONS SHALL HAVE WELL DEFINED ROUTES BETWEEN GREENS AND TEES BEFORE THE TUNNELS ARE CLOSED TO GOLF PATRONS.

BEGINNING JUNE 6, 2016 - EXISTING MUIRFIELD ASSOCIATION ASPHALT PATH THAT IS IMPACTED BY THIS PROJECT MAY BE CLOSED FOR THE DURATION OF THE PROJECT. CLOSURE DETAILS ARE SHOWN IN THE MAINTENANCE OF TRAFFIC CONSTRUCTION PLAN SHEETS.

CLEARING, GRUBBING, AND TREE REMOVAL MAY OCCUR BETWEEN JUNE 6 AND JUNE 15 (INCLUSIVE), AND AFTER JUNE 19, 2016.

BOTH TUNNELS SHALL REMAIN OPEN TO GOLF PATRONS AND USEABLE BETWEEN THE MORNING OF JUNE 16 TO MORNING OF JUNE 20, 2016.

BOTH TUNNELS SHALL REMAIN OPEN TO GOLF PATRONS AND USEABLE BETWEEN THE MORNING OF SEPTEMBER 21 TO THE MORNING OF SEPTEMBER 26, 2016.

WEST TUNNEL (NEAR DAVINGTON DRIVE)

WEST TUNNEL SHALL BE CLOSED FOR NO LONGER THAN 20 CONSECUTIVE WORK DAYS TO PERFORM WORK ON THE INTERIOR OF THE TUNNEL AND PLACING THE STONE FACADE. IN ADDITION TO THE 20 CONSECUTIVE WORK DAYS, THE TUNNEL MAY BE CLOSED FOR UP TO 5 CONSECUTIVE WORK DAYS TO PERFORM ITEMS SUCH AS: GRADING OPERATIONS; EMBANKMENT; REMOVAL OF RAILROAD TIES; EXISTING PATH REMOVAL; AND NEW PATH CONSTRUCTION.

DURING FINAL PAVING OPERATIONS FOR THE SHARED-USE PATH, THE TUNNEL MAY BE CLOSED FOR UP TO 2 CONSECUTIVE WORK DAYS TO PERFORM: FINAL GRADING OF GOLF CART PATH; ASPHALT PLACEMENT; TOPSOIL PLACEMENT AND STABILIZATION. ALL TUNNEL WORK SHALL BE COMPLETED BY SEPTEMBER 14, 2016, IF NOT EARLIER.

EAST TUNNEL (NEAR MUIRFIELD DRIVE)

EAST TUNNEL SHALL BE CLOSED STARTING JUNE 20, 2016. WATER MAIN WORK SHALL COMMENCE AS SOON AS POSSIBLE FROM THE JUNE 20 DATE. THE TUNNEL WORK SHALL BE COMPLETED BY SEPTEMBER 14, 2016 AND OPEN TO GOLF PATRONS NO LATER THAN THAT DATE. IF THE TUNNEL WORK IS COMPLETED BEFORE SEPTEMBER 14, THE DATE TO OPEN THE TUNNEL SHALL BE MOVED UP.

COUNTRY CLUB AT MUIRFIELD VILLAGE

THIS PROJECT INVOLVES WORK ON PORTIONS OF THE COUNTRY CLUB AT MUIFIELD VILLAGE GOLF COURSE. THE TUNNELS ON THIS PROJECT ARE USED BY THE GOLF COURSE PATRONS ON FOOT AND IN GOLF CARTS. DURING CONSTRUCTION, THE GOLF COURSE WILL REMAIN OPEN AND PATRONS WILL BE CROSSING THROUGH THE WORK ZONE OF THIS PROJECT ON DESIGNATED ROUTES. THIS PROJECT PROVIDES A GLICK ROAD TEMPORARY CROSSWALK AT EACH TUNNEL LOCATION WHEN THE TUNNELS ARE CLOSED. THE CONTRACTOR SHALL CONSTRUCT THIS PROJECT TO ACCOMMODATE GOLF PATRONS ON FOOT AND IN GOLF CARTS. THE CONTRACTOR SHALL ENSURE AT ALL TIMES THE ROUTE THE GOLF PATRONS MUST TRAVEL THROUGH THE WORK ZONE IS WELL DELINEATED, REASONABLY LEVEL AND WALKABLE, AND IS FULLY OPEN WHEN THE TUNNELS ARE CLOSED. ALL CONTRACTOR AND SUB-CONTRACTOR PERSONNEL SHALL BE INFORMED ABOUT THE GOLF COURSE PATRON TRAFFIC THROUGH THE WORK ZONE AND THE NEED FOR HEIGHTEN SAFETY IN THOSE AREAS.

CALCULATED
FGW
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SMM

GENERAL NOTES

GLICK ROAD

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MAINTENANCE OF TRAFFIC GENERAL NOTES

ITEM 614 - MAINTAINING TRAFFIC

1. LENGTH AND DURATION OF CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE CONTRACTOR SHALL NOTIFY THE CITY OF DUBLIN AT LEAST 14 DAYS IN ADVANCE OF ANY PLANNED CLOSURES OR OTHER DISRUPTION OF TRAFFIC.

WHERE RESIDENTIAL DRIVEWAY CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO REQUIRE TEMPORARY CLOSURE OF A DRIVEWAY, RESULTING IN SHORT-TERM BLOCKAGE OF ACCESS TO THE PROPERTY, THE CONTRACTOR SHALL PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO THE PROPERTY OWNER. THE DRIVEWAY SHALL BE REOPENED FOR OWNER ACCESS PRIOR TO THE CONCLUSION OF THE WORK DAY.

DRUM REQUIREMENTS: PAYMENT SHALL BE INCLUDED IN THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

2. ALL TEMPORARY TRAFFIC CONTROL (TTC) DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (CURRENT EDITION). COPIES ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, OFFICE OF CONTRACTS, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43216. **NOTE:** ALL DEVICES SHALL COMPLY, FOR CONDITION AND LOCATION, WITH THE CURRENT EDITION OF THE NCHRP 350 CRASH TESTING GUIDELINES.

3. CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND APPROVED BY THE CITY OF DUBLIN INSPECTOR. IF THE CONTRACTOR DOES NOT COMPLY WITH THE STANDARDS, INCLUDING THE INSTALLATION OF TEMPORARY PAVEMENT MARKINGS AND THE REMOVAL OF CONFLICTING TRAFFIC CONTROLS ALL WORK SHALL BE TERMINATED. TEMPORARY PAVEMENT MARKINGS TO INCLUDE, BUT NOT LIMITED TO, CHANNELIZING LINES, EDGE LINES, AND CENTERLINES SHALL BE INSTALLED AND MAINTAINED ON ALL CONSTRUCTION OPERATIONS LASTING A MINIMUM OF 14 CALENDAR DAYS OR AS DIRECTED BY THE PROJECT ENGINEER.

4. TYPE C STEADY-BURN OR TYPE D 360-DEGREE STEADY-BURN WARNING LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS, AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT. ONLY 42" REFLECTORIZED CHANNELIZING DEVICES (CONES) SHALL BE PERMITTED FOR NIGHTTIME WORK WITH THE APPROVAL OF THE CITY OF DUBLIN, AS PER O.D.O.T. STANDARDS.

5. ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

6. THE CONTRACTOR SHALL MAINTAIN ACCESS FROM PUBLIC ROADWAYS TO ALL ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION OF THIS PROJECT, AS WELL AS ACCESS FOR MAIL, WATER, SANITARY SERVICE AND EMERGENCY VEHICLES.

7. TWO-WAY, ONE-LANE TRAFFIC MAY BE MAINTAINED DURING DAYLIGHT HOUR CONSTRUCTION OPERATIONS AS PER FIGURE 6H-10 (TA-10) OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

8. THE EXISTING GOLF CART PATH AND TUNNEL UNDER GLICK RD, AT STATION 13+81 AND AT STATION 35+36, SHALL BE CLOSED AND A TEMPORARY AT GRADE CROSSING PROVIDED TO GOLF COURSE PATRONS AND OTHER USERS AT SATION 15+34 AND AT STATION 33+56. EACH TEMPORARY CROSSING SHALL BE IN SERVICE FOR SPECIFIED DURATION OF DAYS. SEE GENERAL NOTES.

FOR THE PORTION OF THIS TEMPORARY CROSSING WITHIN THE GLICK ROAD RIGHT OF WAY, BETWEEN THE GOLF CAR PATHS ON THE NORTH AND SOUTH SIDES OF GLICK ROAD, THE

CONTRACTOR SHALL PROVIDE A DESIGN TO THE CITY OF DUBLIN FOR APPROVAL, BASED ON THE PLAN VIEW ON SHEETS 8 AND 9 AND THE FOLLOWING CRITERIA:

- a. THE TRAVEL SURFACE SHALL BE ITEM 304, COMPACTED AGGREGATE BASE, A MINIMUM OF 12 FEET WIDE 6 INCHES THICK.
- b. MAXIMUM CROSS SLOPE SHALL BE .02
- c. A 2 FOOT WIDE GRADED SHOULDER SHALL BE PROVIDED WITH A .08 CROSS SLOPE
- d. THE MAXIMUM SIDE SLOPE SHALL BE LIMITED TO 4:1
- e. MAXIMUM PROFILE GRADE SHALL BE 5%.
- f. MAXIMUM GRADE CHANGE WITHOUT A VERTICAL CURVE SHALL BE 1.85%
- g. MINIMUM RADIUS RETURNS AT INTERSECTIONS SHALL BE 10 FEET
- h. MAINTAIN EXISTING DRAINAGE. PROVIDE DRAINAGE FOR THE TEMPORARY PATH AS NEEDED.

FOR THE PORTION OF THE TEMPORARY GOLF CART PATH AT STATION 33+36 WITHIN THE COUNTY CLUB AT MUIRFIELD VILLAGE PROPERTY, BETWEEN THE SOUTH GOLF CART PATH AND THE EXISTING ASPHALT PATH SOUTH OF THE TUNNEL, A TEMPORARY PATH WILL BE ESTABLISHED AT THE DIRECTION OF THE CITY OF DUBLIN, APPROXIMATELY FOLLOWING THE ALIGNMENT SHOWN ON SHEET 9. THE CONTRACTOR SHALL INSTALL AND REMOVE THE FOLLOWING MATERIALS:

- a. TREE FENCE SHALL BE USED TO DELINEATE A PATH AS DIRECTED. THE TREE FENCE SHALL BE PLACED ON EACH SIDE OF THE PATH, TO PROVIDE A TRAVEL AREA AT LEAST 14 FEET INSIDE THE FENCE. A QUANTITY OF 400 LINEAL FEET HAS BEEN ADDED TO ITEM SPECIAL TREE PROTECTION FENCE, FOR THIS PURPOSE.
- b. IF DIRECTED BY THE CITY OF DUBLIN, DURING THE TIME THE TEMPORARY PATH IS IN USE, THE CONTRACTOR SHALL PROVIDE UP TO 6 INCHES OF ITEM 304 COMPACTED AGGREGATE BASE, A MAXIMUM OF 12 FEET IN WIDTH ALONG ALL OR PORTIONS OF THE PATH. A QUANTITY OF 80 CUBIC YARDS HAS BEEN ADDED TO ITEM 304, AGGREGATE BASE, FOR THIS PURPOSE.
- c. UPON REOPENING OF THE TUNNEL, THE CONTRACTOR SHALL REMOVE THE TREE FENCE AND ANY 304 MATERIAL PLACED IN PART (b), ABOVE. THE CONTRACTOR SHALL ADD UP TO A MAXIMUM OF 3 INCHES OF TOPSOIL AND SEED AND MULCH THE TEMPORARY GOLF CAR PATH AREAS AS DIRECTED BY THE CITY. THE FOLLOWING QUANTITIES HAVE BEEN ADDED TO THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 653, TOPSOIL FURNISHED AND PLACED, AS PER PLAN	40 CU YD
ITEM 659, SEEDING AND MULCHING, AS PER PLAN	544 SQ YD
ITEM 659, COMMERCIAL FERTILIZER	.03 TON
ITEM 659, WATER	2 M GAL

PAYMENT WILL BE MADE FOR QUANTITIES USED, AS MEASURED AND DOCUMENTED BY THE CITY. PAYMENT FOR ANY WORK NOT INCLUDED IN THE ABOVE QUANTITIES, INCLUDING EXCAVATION AND DRAINAGE, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 615 ROADS FOR MAINTAINING TRAFFIC.

ALL TRAFFIC CONTROL SHOWN ON THE PLAN SHALL BE IN PLACE PRIOR TO OPENING THE TEMPORARY CROSSING.

WHEN NO LONGER NEEDED, REMOVE ALL TEMPORARY PAVEMENT, TRAFFIC CONTROL, APPURTENANCES, DRAINAGE AND EARTHWORK AND RESTORE THE AREA TO THE ORIGINAL CONTOUR.

9. THE CONTRACTOR SHALL MAINTAIN ALL PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS THROUGHOUT THIS PROJECT. PERMANENT TRAFFIC CONTROLS MAY BE TEMPORARILY RELOCATED OR COVERED, AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, OR IMPROPERLY PLACED SIGNS.

10. IN THE EVENT THAT IT BECOMES NECESSARY FOR THE CITY TO PERFORM WORK OF AN IMMEDIATE NATURE (SUCH AS THE PLACEMENT OF BARRICADES OR REPLACEMENT OF SIGNS AND OTHER WARNING OR PROTECTIVE DEVICES) BECAUSE OF FAILURE OR REFUSAL OF THE CONTRACTOR TO PERFORM SUCH WORK AS REQUIRED BY THE CONTRACT, THE CONTRACTOR SHALL

REIMBURSE THE CITY AT THE RATE OF 2.5 TIMES THE ACTUAL COST OF LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM SUCH WORK. THE CITY SHALL BE REQUIRED TO NOTIFY OR ATTEMPT TO NOTIFY THE DESIGNATED REPRESENTATIVE OF THE CONTRACTOR OF THE NECESSITY TO PERFORM SUCH WORK. IF THE CONTRACTOR REFUSES OR FAILS WITHIN A REASONABLE TIME TO PERFORM OR CAUSE THE PERFORMANCE OF SUCH WORK, THE CITY SHALL BE REIMBURSED BY THE CONTRACTOR IN THE AMOUNT PROVIDED HERIN BY WAY OF A DEDUCTION FROM THE CONTRACTOR'S NEXT PAYMENT UNDER THE CONTRACT. REASONABLE TIME FOR ALL STREETS INVOLVED ON THIS CONTRACT IS 2 HOURS FROM THE TIME OF NOTIFICATION BY THE CITY.

11. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION CMS, ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

12. A FLAGGER SHALL BE UTILIZED TO ASSIST IN CONTROLLING TRAFFIC AS DESCRIBED IN NOTE 7, OR WHILE EQUIPMENT IS ENTERING OR EXITING AN INTERSECTION OR WORK ZONE. THE CONTRACTOR MAY UTILIZE HIS OWN FLAGGER OR LEO UNDER PAY ITEM 614 MAINTAINING TRAFFIC, LUMP SUM.

FLAGGERS AND/OR LEO'S SHALL BE EQUIPPED ACCORDING TO THE STANDARDS FOR FLAGGING TRAFFIC CONTAINED IN THE OMUTCD. FLAGGING OPERATIONS PERFORMED BY LEO'S OR DESIGNATED FLAGGERS SHALL ONLY BE PERMITTED AS LONG AS ALL TRAFFIC CONTROL IS IN PLACE ACCORDING TO FIGURE 6H-10 (TA-10) IN THE OHIO MANUAL. PATROL CARS SHALL NOT BE USED IN FLAGGING OPERATIONS.

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S WITH OR WITHOUT PATROL CARS FOR TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. THE CONTRACTOR SHALL MAKE ARRANGEMENT THROUGH THE DUBLIN POLICE DIVISION AT (614) 410-4800 OR DELAWARE COUNTY SHERIFF'S OFFICE OR STATE HIGHWAY PATROL.

LEO'S SHALL BE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH EMPLOYED BY THE CONTRACTOR, THE CITY REPRESENTATIVE SHALL HAVE CONTROL OVER THEIR PLACEMENT. LEO'S SHALL NOT HAVE THE AUTHORITY TO CHANGE, EDIT OR MODIFY ANY MAINTENANCE OF TRAFFIC SCHEME WITHOUT THE PERMISSION OF THE TEMPORARY TRAFFIC CONTROL COORDINATOR OR PROJECT ENGINEER UNLESS AN EMERGENCY DEVELOPS.

IF A SAFETY HAZARD DEVELOPS, A LEO MAY BE ASSIGNED BY THE CITY OF DUBLIN AT THE CONTRACTOR'S EXPENSE.

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN

USE OF LAW ENFORCEMENT OFFICES (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED IN THIS NOTE WILL NOT BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS FOR FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

A. FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

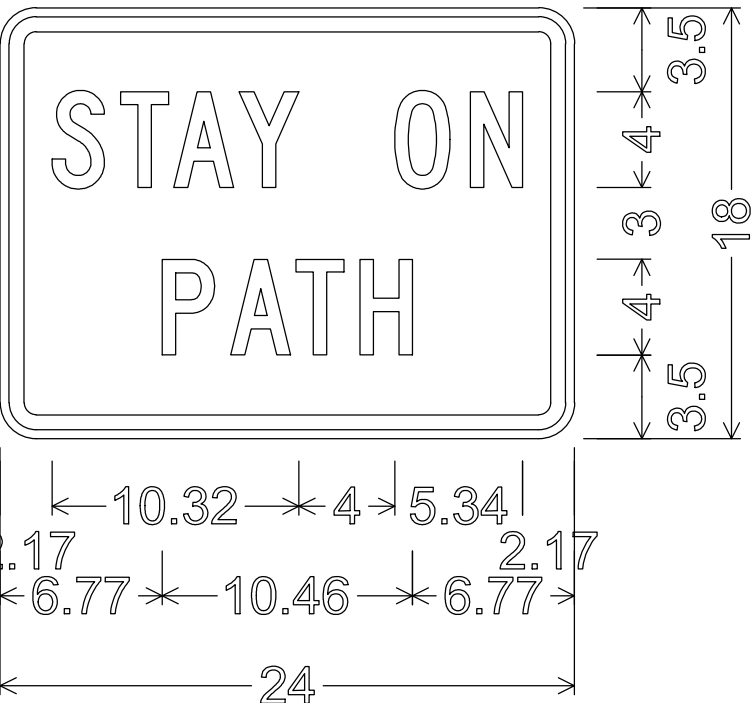
B. DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE BLOCKAGE OF TRAFFIC IS REQUIRED.

LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. THE CONTRACTOR SHALL UTILIZE ANY OF THE FOLLOWING LAW ENFORCEMENT AGENCY(S): CITY OF DUBLIN (614-410-4800), DELAWARE COUNTY SHERIFF'S OFFICE, OR OHIO STATE HIGHWAY PATROL.

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 LAW ENFORCEMENT OFFICE WITH PATROL CAR, AS PER PLAN. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN	30 HOURS
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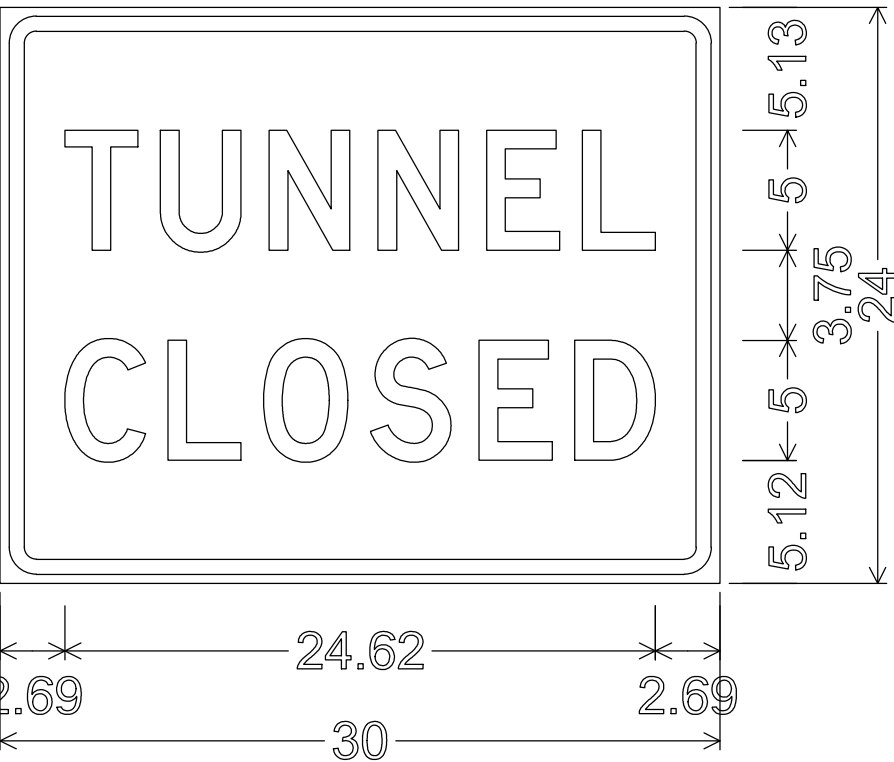
THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED. ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN



1.50" Radius, 0.63" Border, 0.38" Indent, Black on Orange;
"STAY ON" C;
"PATH" C;

Table of letter and object lefts.

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	16.49	19.64	
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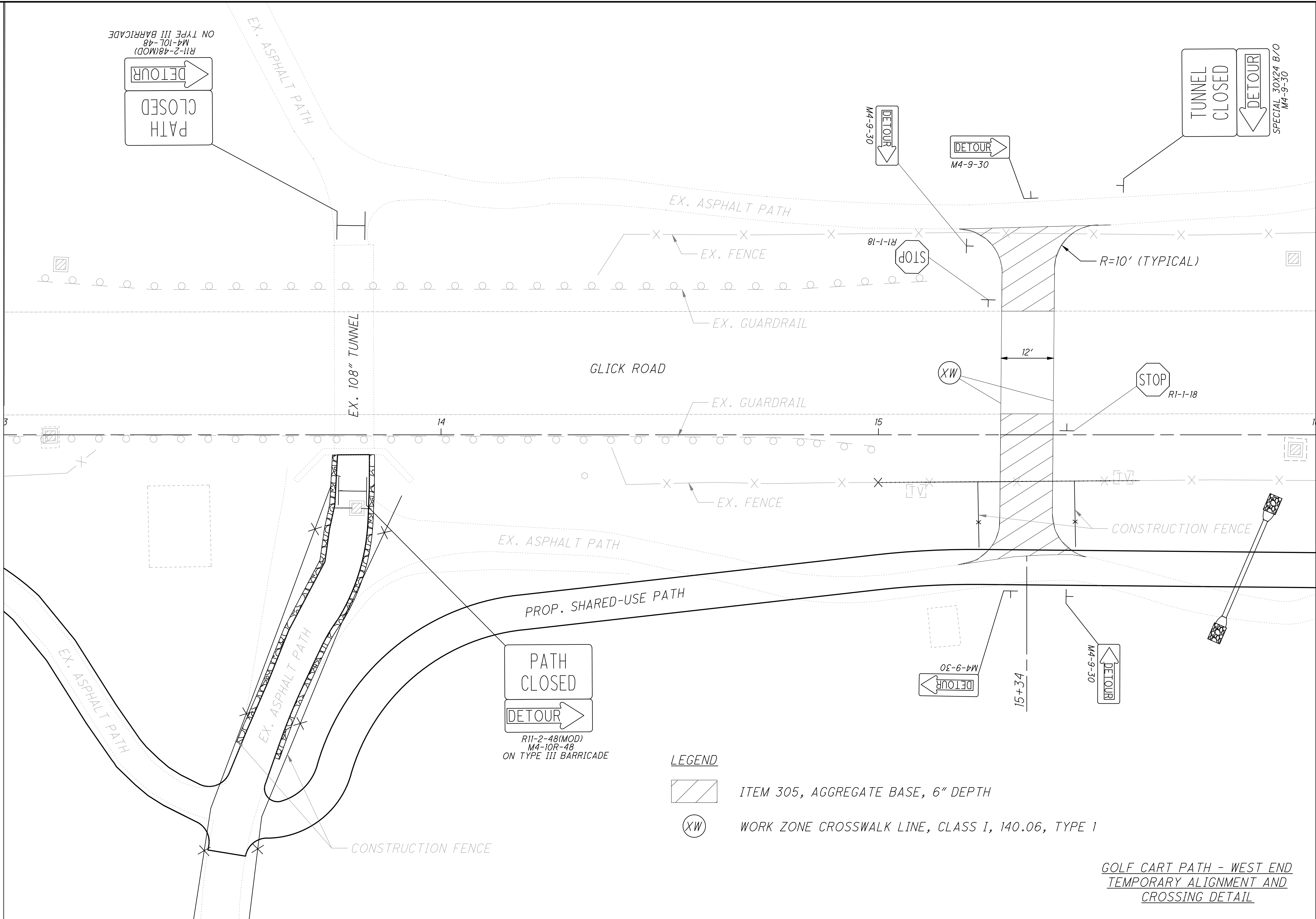


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"TUNNEL" D; "CLOSED" D;
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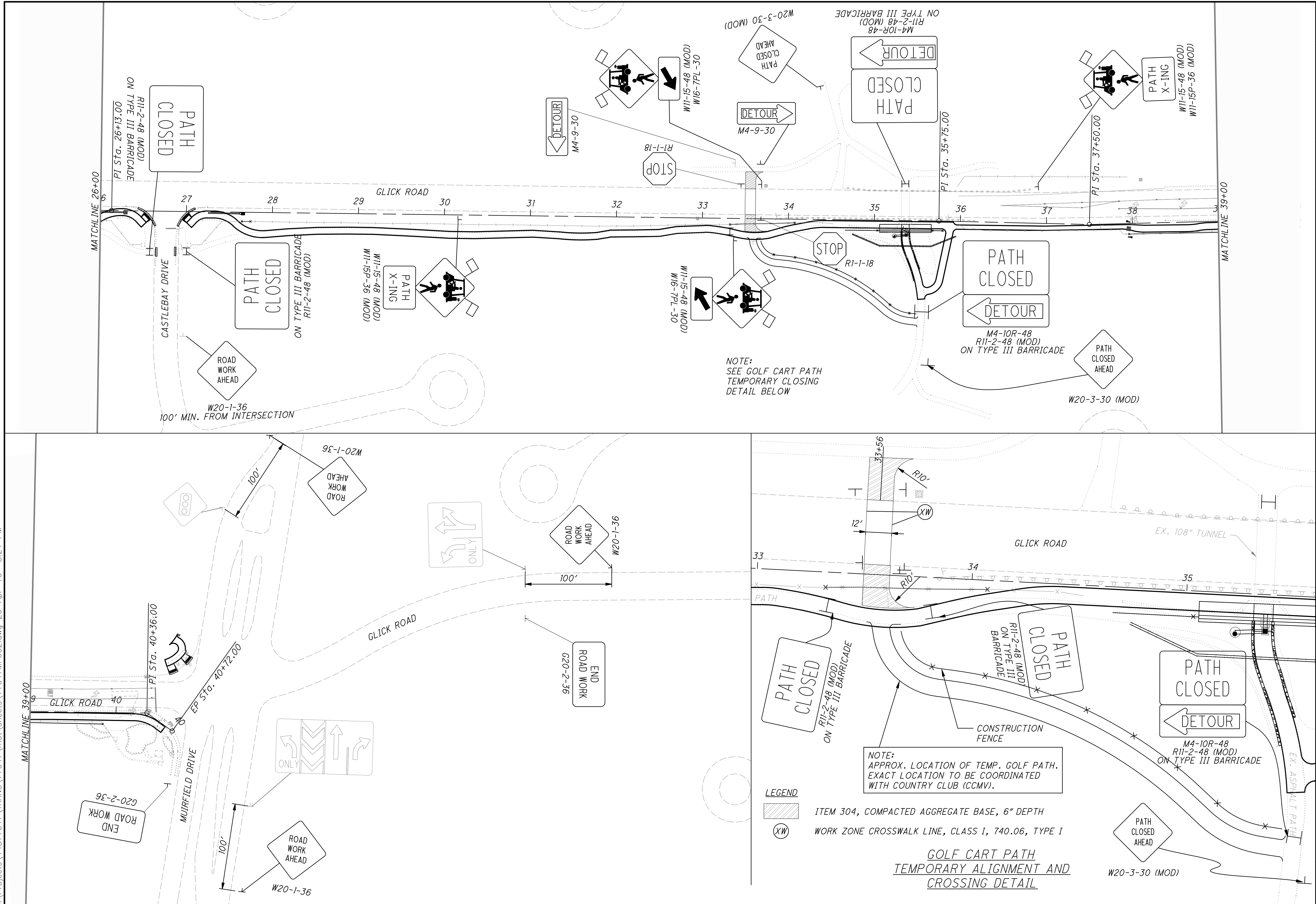
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C	L	O	S	E	D
2.70	6.99	10.98	15.43	19.96	23.95



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 0 5 10 20 HORIZONTAL SCALE IN FEET	CALCULATED JAN	MAINTENANCE OF TRAFFIC STA. 13+00 TO STA. 16+00	GLICK ROAD	<div>8 27</div>
	CHECKED RAM			



9

27

GLICK ROAD

MAINTENANCE OF TRAFFIC

STA. 26+00 TO STA. 40+72

CALCULATED

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HORIZONTAL

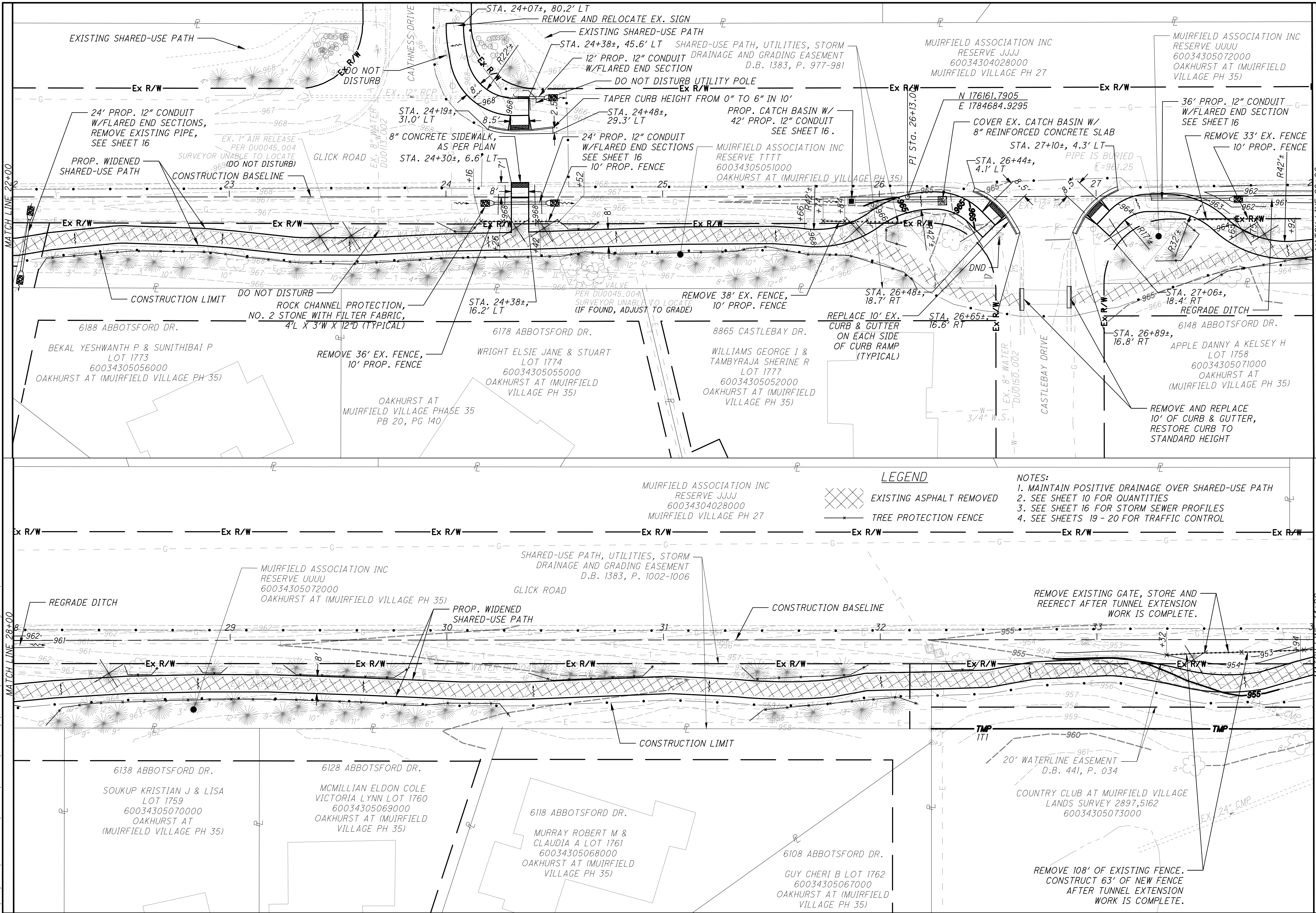
SCALE IN FEET

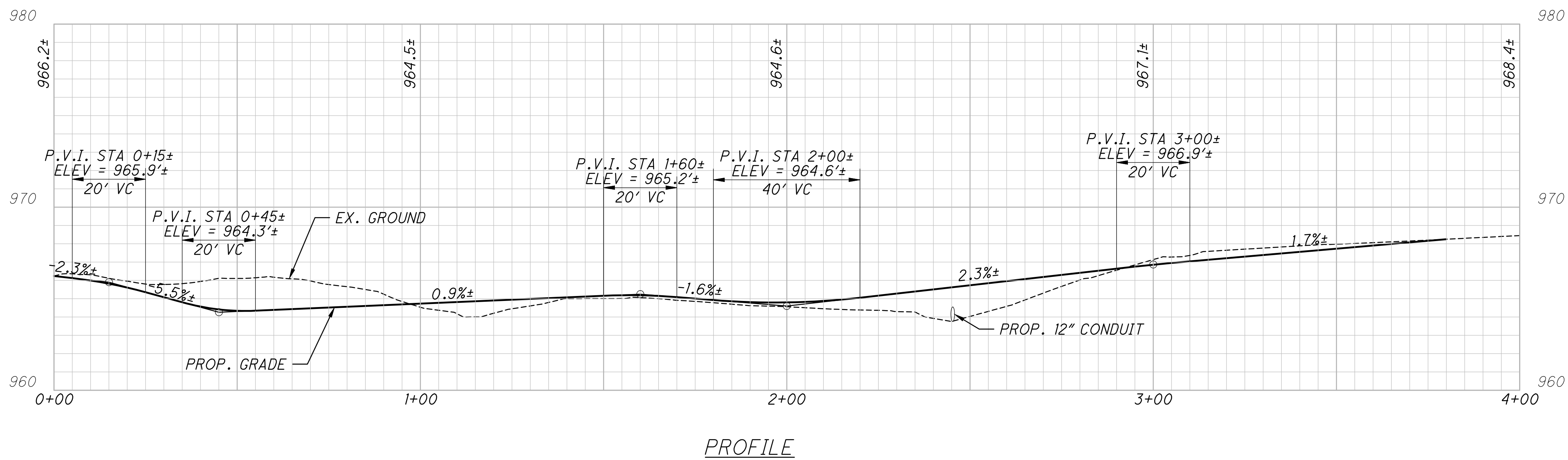
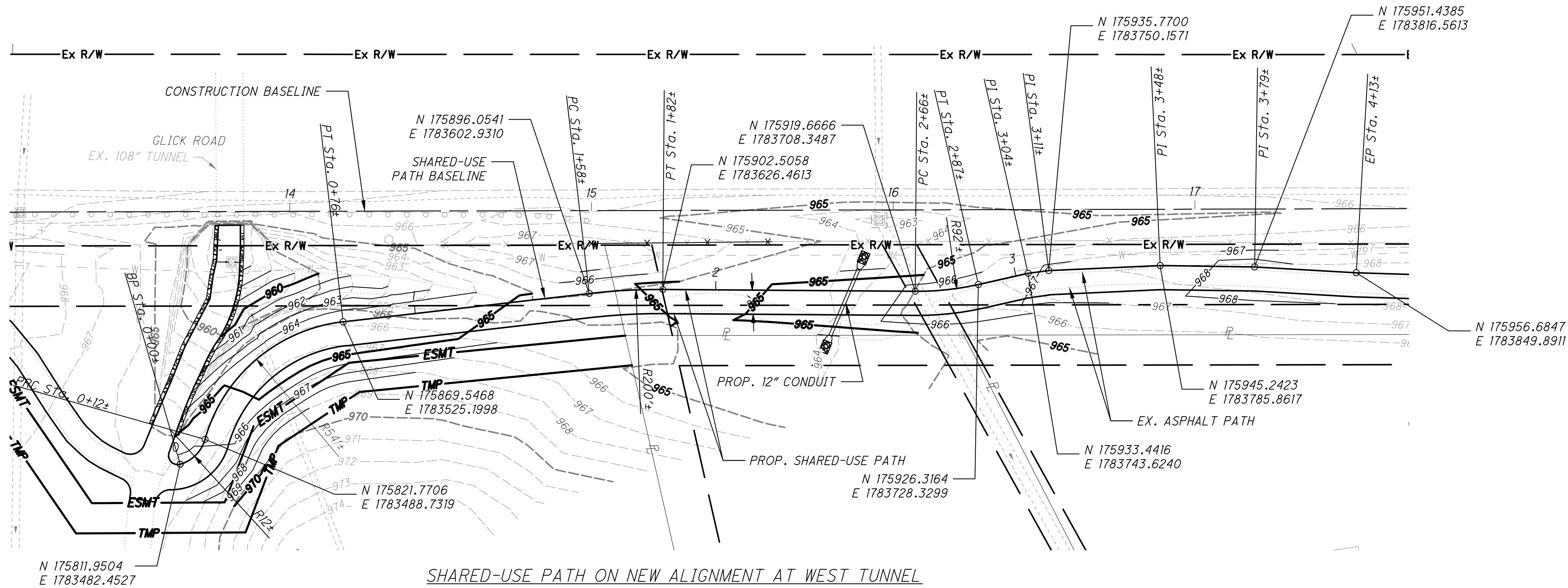
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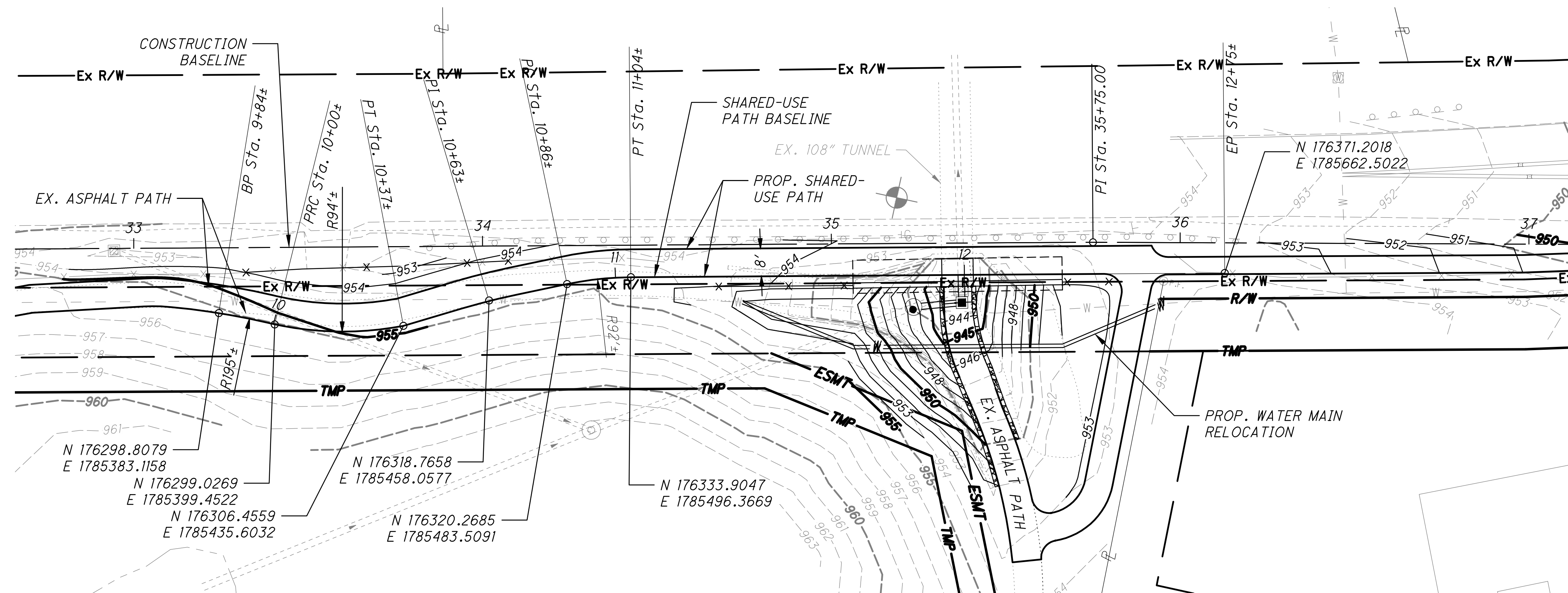
ITEM	DESCRIPTION	QUANT.	UNIT
ROADWAY			
201	CLEARING AND GRUBBING	LUMP	
201	TREE REMOVED, 18" SIZE	1	EACH
201	STUMP REMOVED	2	EACH
202	CURB AND GUTTER REMOVED	242	LIN. FT.
202	CONCRETE REMOVED	204	SQ. FT.
202	PIPE REMOVED	31	LIN. FT.
202	CATCH BASIN REMOVED	1	EACH
202	FENCE REMOVED	830	LIN. FT.
202	RETAINING WALL REMOVED, TIMBER	246	LIN. FT.
202	GATE REMOVED AND REERECTED	1	EACH
203	EXCAVATION, AS PER PLAN	852	CU. YD.
203	EMBANKMENT	354	CU. YD.
204	SUBGRADE COMPACTION	4,067	SQ. YD.
204	EXCAVATION OF SUBGRADE	125	CU. YD.
204	GRANULAR EMBANKMENT, NO. 2 STONE	125	CU. YD.
607	GATE INSTALLED, AS PER PLAN	2	EACH
607	FENCE, AS PER PLAN	400	LIN. FT.
608	6" CONCRETE WALK, AS PER PLAN	521	SQ. FT.
608	8" CONCRETE WALK, AS PER PLAN	56	SQ. FT.
608	DETECTABLE WARNING PANELS BY TUFTILE, 2'x8', BRICK RED	9	EACH
608	CURB RAMPS	8	EACH
SPECIAL	TREE PROTECTION FENCE	3,245	LIN. FT.
EROSION CONTROL			
601	ROCK CHANNEL PROTECTION, NO. 2 STONE WITH FILTER FABRIC	4	CU. YD.
653	TOPSOIL FURNISHED AND PLACED, AS PER PLAN	488	CU. YD.
659	SEEDING AND MULCHING, AS PER PLAN	5,375	SQ. YD.
659	COMMERCIAL FERTILIZER	0.76	TON
659	WATER	32	M. GAL.
207	INLET PROTECTION	13	EACH
207	WATTLES	1,500	LIN. FT.
671	EROSION CONTROL MAT, TYPE G, AS PER PLAN	560	SQ. YD.
DRAINAGE			
901	12" PIPE WITH TYPE I BEDDING, 706.02	170	LIN. FT.
901	21" PIPE WITH TYPE I BEDDING, 706.02	14	LIN. FT.
901	21" PIPE WITH TYPE I BEDDING, 706.02, CONCRETE ENCASED	8	LIN. FT.
604	INLINE DRAIN WITH HEAVY DUTY GRATE	2	EACH
604	MANHOLE, TYPE C, AS PER PLAN	1	EACH
604	STANDARD CATCH BASIN, AA-S133A, WITH BICYCLE SAFE GRATE	2	EACH
SPECIAL	12" ADS N-12 FLARED END SECTION WITH DISSIMILAR COUPLER	8	EACH
SPECIAL	8" REINFORCED CONCRETE SLAB	2	EACH
SPECIAL	FRENCH DRAIN	250	LIN. FT.
PAVEMENT			
301	ASPHALT CONCRETE BASE, PG64-22	510	TON
304	AGGREGATE BASE	622	CU. YD.
448	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, MEDIUM TRAFFIC (SHARED-USE PATH)	244	TON
609	COMBINATION CURB AND GUTTER, AS PER PLAN	256	LIN. FT.
WATER			
202	PIPE REMOVED (12" WATER PIPE)	121	LIN. FT.
801	12 INCH WATER PIPE AND FITTINGS	130	LIN. FT.
801	DUCTILE IRON FITTINGS, INCREASE OR DECREASE	460	LB.
801	CONCRETE BLOCKING CLASS C, INCREASE OR DECREASE	7	CU. YD.
801	INCREASE OR DECREASE IN EXCAVATION AND BACKFILL	14	CU. YD.
807	VALVE BOXES ADJUSTED TO GRADE	7	EACH
SPECIAL	SURVEY COORDINATES	LUMP	

ITEM	DESCRIPTION	QUANT.	UNIT
TRAFFIC CONTROL			
630	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	1	EACH
630	SIGNING MISC.: PEDESTRIAN CROSSING WARNING SYSTEM	2	EACH
630	SIGNING MISC.: PEDESTRIAN CROSSING WARNING SYSTEM FOUNDATION	2	EACH
* 644	CROSSWALK LINE	258	LIN. FT.
644	REMOVAL OF PAVEMENT MARKING	89	LIN. FT.
LANDSCAPING			
661	EVERGREEN TREE, 6' HEIGHT, THUJA OCCIDENTALIS	18	EACH
661	EVERGREEN TREE, 7' HEIGHT, PICEA ABIES	7	EACH
STRUCTURE			
202	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LUMP	
503	UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP	
503	COFFERDAMS AND EXCAVATION BRACING	LUMP	
509	EPOXY COATED REINFORCING STEEL	8,135	LB.
511	CLASS C CONCRETE	14	CU. YD.
511	CLASS S CONCRETE, FOOTING	68	CU. YD.
511	CLASS S CONCRETE, WING WALL ABOVE FOOTING	41	CU. YD.
512	TYPE 2 WATERPROOFING MEMBRANE	37	SQ. YD.
512	SEALING CONCRETE SURFACES (EPOXY-URETHANE)	45	SQ. YD.
516	1/2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	7	SQ. YD.
518	POROUS BACKFILL WITH FILTER FABRIC	49	CU. YD.
518	4" PERFORATED CORRUGATED PIPE, INCLUDING SPECIALS, 720.12	51	LIN. FT.
518	4" NON-PERFORATED CORRUGATED PIPE, INCLUDING SPECIALS, 720.08	14	LIN. FT.
* 611	FIELD PAVING OF EXISTING PIPE, WEST TUNNEL, AS PER PLAN (108" DIA CMP TYPE A)	46	LIN. FT.
* 611	108" CONDUIT, TYPE D, 706.02, AS PER PLAN	8	LIN. FT.
613	FLOWABLE CONTROLLED DENSITY FILL, TYPE 2, MUD MAT	7	CU. YD.
* 834	CONDUIT RENEWAL USING RESIN BASED LINER (108" DIA.) (WEST TUNNEL-300 MILS)	46	LIN. FT.
* 834	CONDUIT RENEWAL USING RESIN BASED LINER (108" DIA.) (EAST TUNNEL-150 MILS)	46	LIN. FT.
SPECIAL	MANUFACTURED STONE VENEER	1,323	SQ. FT.
SPECIAL	POLYURETHANE CAULKING	26	LIN. FT.
SPECIAL	RAILING (42" HIGH METAL RAILING)	59	LIN. FT.
SPECIAL	CARBON FIBER REPAIR	10	SQ. FT.
MAINTENANCE OF TRAFFIC *			
* 614	WORK ZONE CROSSWALK LINE, CLASS I, 740.06, TYPE I	120	LIN. FT.
* 614	LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN	30	HR.
* 615	ROADS FOR MAINTAINING TRAFFIC	LUMP	
* 616	WATER	5	M. GAL.
GENERAL			
* 614	MAINTAINING TRAFFIC	LUMP	
623	CONSTRUCTION LAYOUT STAKES	LUMP	
624	MOBILIZATION	LUMP	
SPECIAL	PROOF SURVEY	LUMP	

* DENOTES ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2016 EDITION. ALL OTHER ITEMS REFERENCE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2012 EDITION.



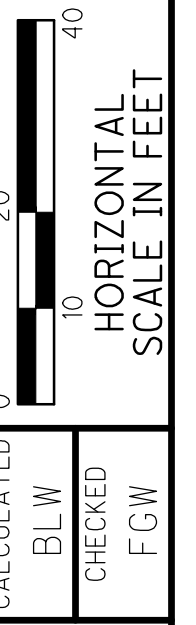
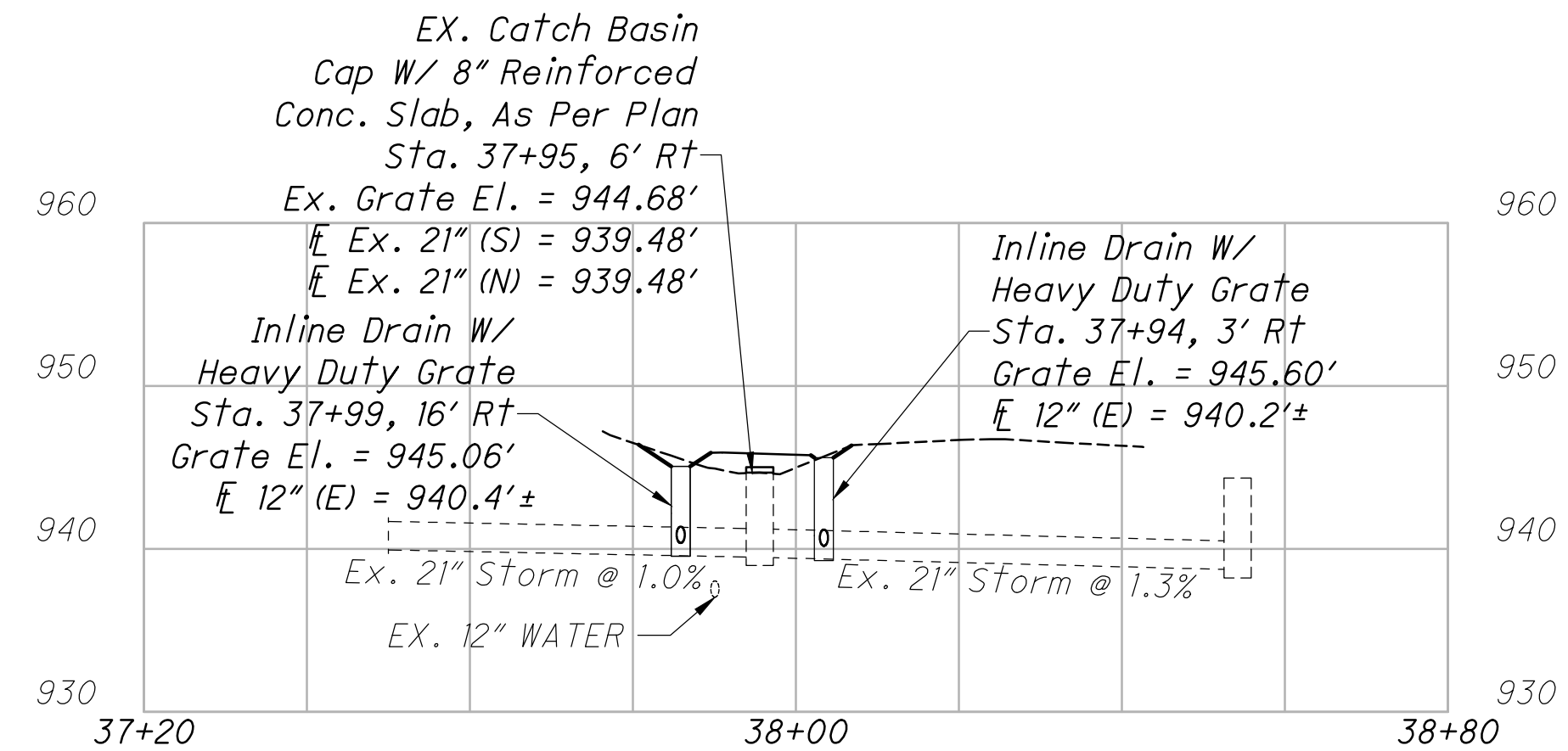
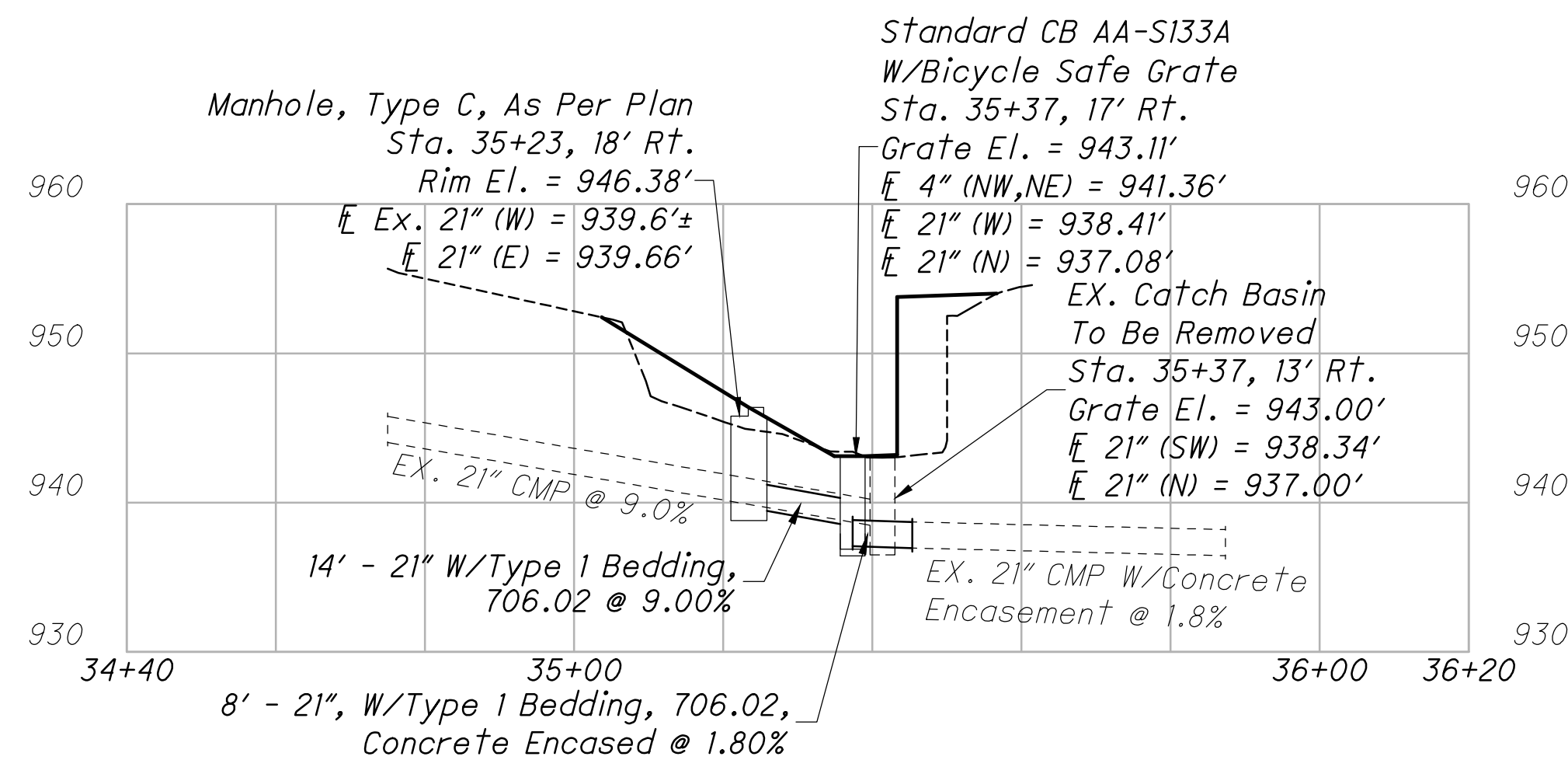
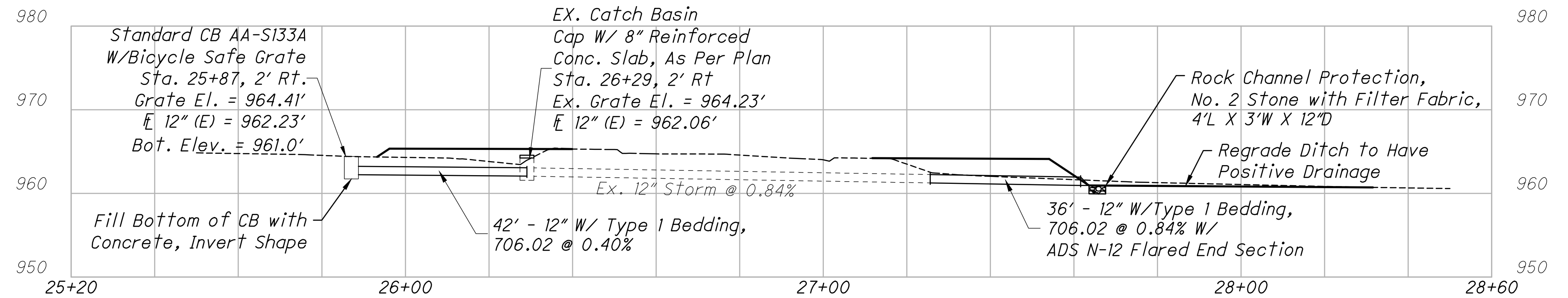
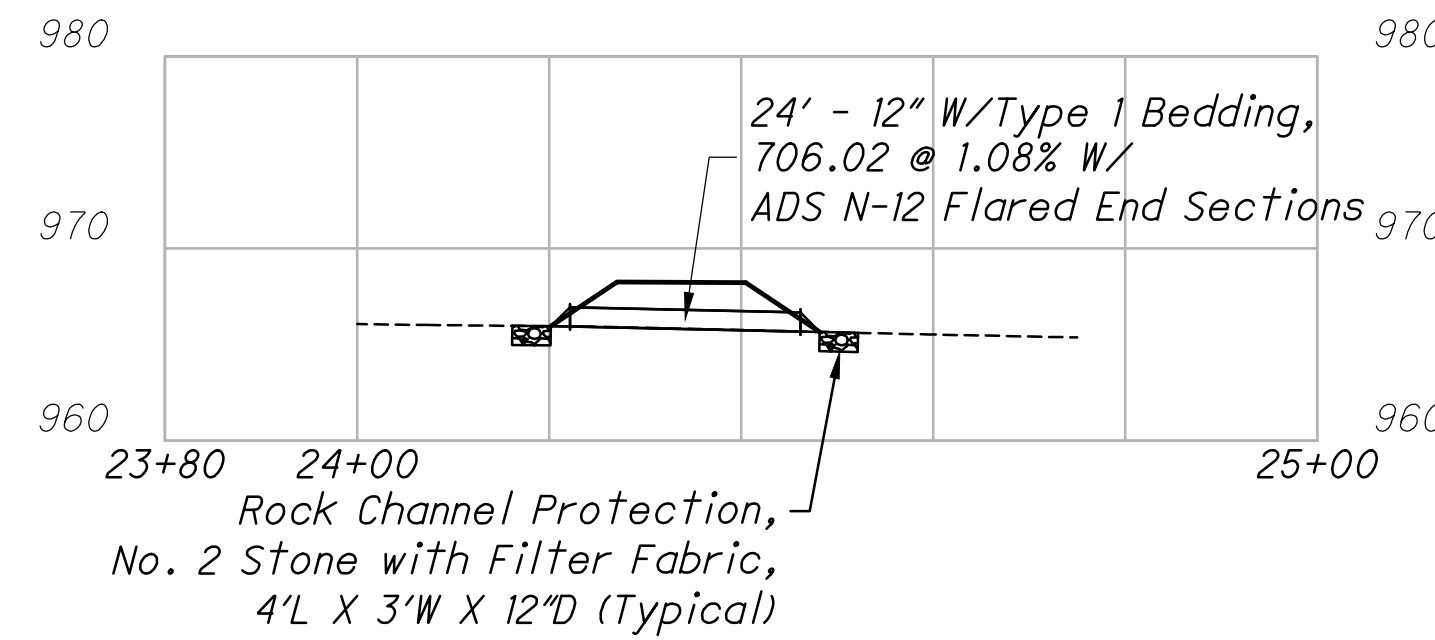
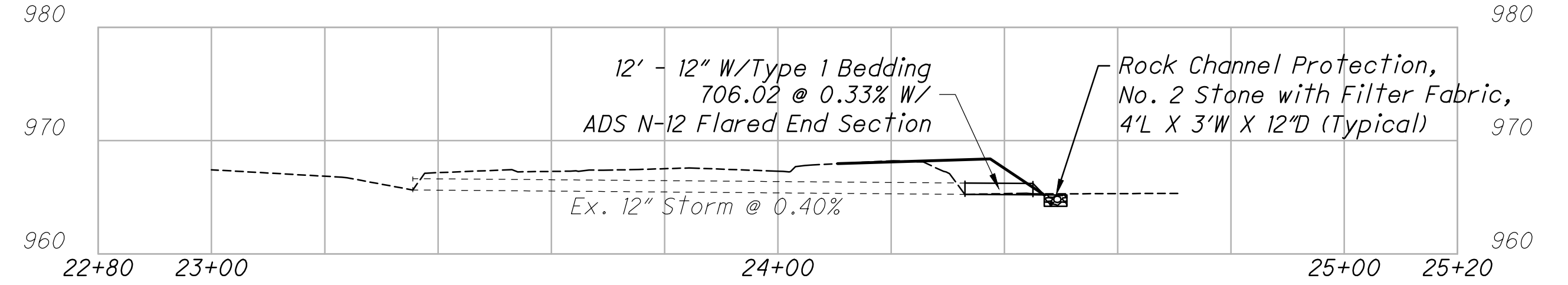
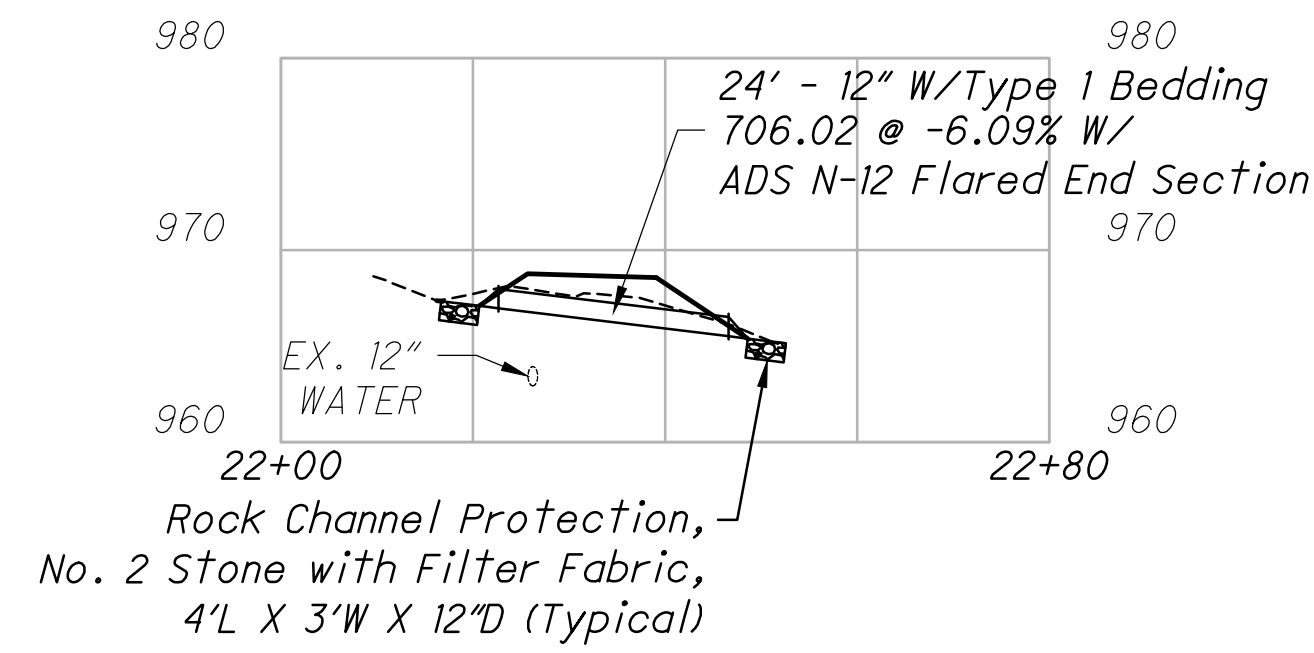
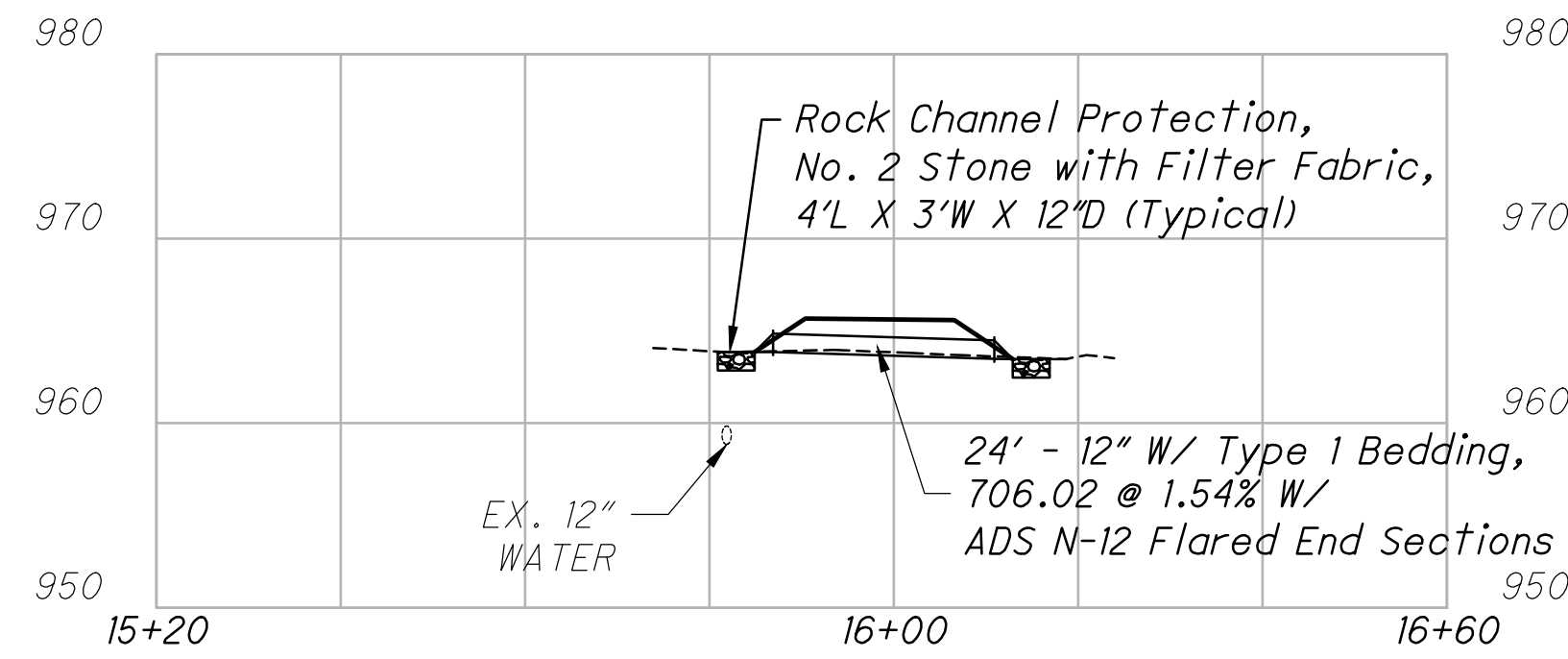




SHARED-USE PATH ON NEW ALIGNMENT AT EAST TUNNEL

PROFILE

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CLICK ROAD SHARED-USE PATH SECTION 1
STORM SEWER PROFILES

CLICK ROAD

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WATERLINE GENERAL NOTES

THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2012 EDITION AND ALL REVISIONS, INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN, UNLESS OTHERWISE NOTED.

ALL WATER MAIN MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF COLUMBUS, DIVISION OF WATER. ALL CITY OF COLUMBUS, DIVISION OF WATER STANDARD DRAWINGS SHALL APPLY TO THE PROJECT, UNLESS OTHERWISE NOTED.

FOR ANY EMERGENCIES INVOLVING THE WATER DISTRIBUTION SYSTEM, PLEASE CONTACT THE DIVISION OF WATER DISTRIBUTION MAINTENANCE OFFICE AT 614-645-7788.

ALL BRASS FITTINGS ASSOCIATED WITH WATER WORK, INCLUDING REPAIRS TO THE EXISTING SYSTEM, SHALL CONFORM TO THE REVISED ALLOWABLE LEAD EXTRACTION LIMIT PER THE UPDATED NSF/ANSI 61 STANDARD. THE DIVISION OF WATER'S APPROVED MATERIALS LIST HAS BEEN UPDATED TO REFLECT THIS REQUIREMENT.

IT SHALL BE UNLAWFUL FOR ANY PERSON TO PERFORM ANY WORK ON CITY OF COLUMBUS WATER LINE SYSTEMS WITHOUT FIRST SECURING LICENSE TO ENGAGE IN SUCH WORK, AS INDICATED IN COLUMBUS CITY CODE SECTION 1103.02 AND 1103.06. THIS WORK INCLUDES ANY ATTACHMENTS, ADDITIONS TO OR ALTERATIONS IN ANY CITY SERVICE PIPE OR APPURTENANCES (INCLUDING WATER SERVICE LINES AND TAPS). THIS REQUIREMENT MAY BE MET BY UTILIZATION OF A SUBCONTRACTOR WHO HOLDS A CITY OF COLUMBUS WATER CONTRACTOR LICENSE OR A COMBINED WATER/SEWER CONTRACTOR LICENSE TO PERFORM THIS WORK. UTILIZATION OF A SUBCONTRACTOR MUST MEET THE LICENSING REQUIREMENTS OF CITY OF COLUMBUS BUILDING CODE, IN PARTICULAR SECTION 4114.119 AND 4114.529.

NO PERSON SHALL BEGIN CONSTRUCTION OR INSTALLATION OF A PUBLIC WATER MAIN UNTIL PLANS HAVE BEEN APPROVED BY THE STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA).

THE CONTRACTOR SHALL OBTAIN THE PROPER HYDRANT PERMIT(S), AND PAY ANY APPLICABLE FEES, FOR ANY APPROVED HYDRANT USAGE DEEMED NECESSARY FOR WORK UNDER THIS IMPROVEMENT. PERMITS MAY BE OBTAINED THROUGH THE DIVISION OF WATER PERMIT OFFICE (645-7330). THE CONTRACTOR SHALL ADHERE TO ALL RULES & REGULATIONS GOVERNING SAID PERMIT AND MUST HAVE THE ORIGINAL PERMIT ON SITE ANYTIME IN WHICH THE HYDRANT IS IN USE. COST TO BE INCLUDED IN THE VARIOUS BID ITEMS.

ALL WATER MAINS SHALL BE CLEANED AND FLUSHED, AND ANY WATER MAIN 12-INCH AND LARGER MUST BE PROPERLY PIGGED, IN ACCORDANCE WITH SECTION 801.13 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS.

ALL WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH SECTION 801.14 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, WITH THE FOLLOWING EXCEPTION: 150 PSI OF PRESSURE SHALL BE MAINTAINED FOR AT LEAST TWO HOURS IN ANY TESTED SECTION. THE CITY MAY NOT APPROVE ANY TEST LASTING LESS THAN TWO HOURS REGARDLESS OF THE AMOUNT OF LEAKAGE.

ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 801.15 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS. SPECIAL ATTENTION IS DIRECTED TO APPLICABLE SECTIONS OF A.W.W.A. C-651. WHEN THE WATER MAINS ARE READY FOR DISINFECTION, THE CITY OF DUBLIN SHALL SUBMIT A WRITTEN REQUEST FOR CHLORINATION OF THE MAINS THAT NEED DISINFECTED, THREE (3) SETS OF "AS-BUILT" PLANS (FULL SIZE SHEETS ONLY), THE AS-BUILT SURVEY COORDINATES, WATER SERVICE REPORTS AND A PRESSURE TEST TO THE CITY OF COLUMBUS, DIVISION OF WATER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DISINFECTION OF ALL WATER MAINS CONSTRUCTED UNDER THIS PLAN.

ONLY ONE CONNECTION TO AN EXISTING WATER LINE IS PERMITTED BEFORE DISINFECTION OF A NEW WATER LINE HAS BEEN COMPLETED. ALL OTHER CONNECTIONS MUST BE MADE AFTER THE LINE HAS BEEN DISINFECTED.

WHERE INDICATED ON THE PLANS, THE EXISTING WATER MAIN SHALL BE ABANDONED; AND ANY EXISTING WATER SERVICES OFF THIS MAIN SHALL BE TRANSFERRED TO THE NEW WATER MAIN. PRIOR TO ABANDONMENT OF THE EXISTING WATER MAIN, THE PROPOSED WATER MAIN SHALL BE PIGGED (IF REQUIRED), TESTED, CHLORINATED AND PUT IN SERVICE AND THEN THE EXISTING WATER SERVICES SHALL BE TRANSFERRED. THE CONTRACTOR SHALL MAINTAIN WATER SERVICES TO ALL PROPERTIES DURING CONSTRUCTION OF THE NEW WATER MAIN AND SHALL NOTIFY ALL CUSTOMERS AFFECTED BY THE TRANSFER OF SERVICES. TO ENSURE THAT ALL EXISTING SERVICES ARE TRANSFERRED TO THE NEW MAIN, NO WATER MAIN SHALL BE ABANDONED UNTIL THE NEW WATER MAIN HAS BEEN PUT IN SERVICE; ALL AFFECTED WATER SERVICES HAVE BEEN TRANSFERRED; AND THE EXISTING WATER MAIN TO BE ABANDONED HAS BEEN SHUT DOWN FOR 24 HOURS. ALL VISIBLE VALVE BOXES, FIRE HYDRANTS, AND SERVICE BOXES ON THE WATER MAIN TO BE ABANDONED, WHICH WILL NO LONGER BE IN SERVICE, SHALL BE REMOVED. ALL WATER MAINS TO BE ABANDONED SHALL BE MADE WATER TIGHT. THE REQUIRED SURFACE RESTORATION SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM(S).

MAINTAIN EIGHTEEN (18) INCHES VERTICAL AND TEN (10) FEET HORIZONTAL SEPARATION BETWEEN ANY SANITARY OR STORM SEWER PIPING AND ALL PROPOSED WATER MAINS.

WHEN CONTROLLED DENSITY FILL (ITEM 613) IS TO BE USED AS BACKFILL, THE CONTRACTOR SHALL PROVIDE SIZE NO. 57 CRUSHED CARBONATE STONE (CCS) 1 FOOT BELOW TO 1 FOOT ABOVE THE EXISTING WATER LINE.

"SURVEY COORDINATES" SHALL INCLUDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO OBTAIN HORIZONTAL AND VERTICAL (NORTHING, EASTING, AND ELEVATION) SURVEY COORDINATES FOR THE WATER MAIN IMPROVEMENTS. THE SURVEY COORDINATES SHALL BE OBTAINED FOR THE COMPLETED WATER MAIN CONSTRUCTION AND SHALL INCLUDE ALL VALVES, TEES, CROSSES, BENDS, DEFLECTIONS, PLUGS, REDUCERS, TAPPING SLEEVES, BLOW OFFS, CHLORINATION TAPS, FIRE HYDRANTS, AIR RELEASES, CURB STOPS, CASING PIPE TERMINI, AND OTHER FITTINGS. ADDITIONAL SURVEY COORDINATES ARE REQUIRED ON THE WATER MAIN EVERY 500' WHERE NO FITTING OR OTHER WATER MAIN STRUCTURE IS BEING INSTALLED WITHIN THAT LENGTH OF THE IMPROVEMENT.

ALL SURVEY COORDINATES SHALL BE REFERENCED TO THE APPLICABLE COUNTY ENGINEER'S MONUMENTS, AND SHALL BE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) WITH THE (NSRS2007) ADJUSTMENT, WITH FURTHER REFERENCE MADE TO THE OHIO STATE PLANE SOUTH COORDINATE SYSTEM, SOUTH ZONE, WITH ELEVATIONS BASED ON NAVD 88 DATUM. ALL COORDINATES (NORTHING, EASTING, ELEVATION) SHALL BE REFERENCED TO THE NEAREST HUNDREDTH (N XXXXXX.XX, E XXXXXX.XX, ELEV. XXX.XX). ALL SURVEY

COORDINATES SHALL BE ACCURATE TO WITHIN 1.0 FOOT HORIZONTAL AND A TENTH OF A FOOT (0.10) OR LESS VERTICAL.

THE COORDINATES SHALL BE DOCUMENTED TO THE MUNICIPALITY ENGINEER OR DESIGNATED REPRESENTATIVE IN DIGITAL SPREADSHEET FORM AND SHALL INCLUDE THE APPLICABLE ITEM, STATION, NORTHING, EASTING, AND ELEVATION. COORDINATES SHALL BE SUBMITTED TO THE MUNICIPALITY ENGINEER OR DESIGNATED REPRESENTATIVE ON A BI-WEEKLY BASIS. COORDINATES SHALL ALSO BE REQUIRED TO BE SUBMITTED TO THE DIVISION OF WATER AS PART OF THE REQUEST FOR CHLORINATION.

LUMP SUM PAYMENT IS FULL COMPENSATION FOR ALL WORK INVOLVED IN OBTAINING AND DOCUMENTING THE SURVEY COORDINATES AS DESCRIBED IN THIS SPECIFICATION.

SPECIAL NOTES

ALL WATER LINE VALVE BOXES, SERVICE BOXES, TEST STATIONS, PITOMETER TAP STRUCTURES, METER PIT COVERS, AND OTHER SURFACE UTILITY STRUCTURES WITHIN THE DISTURBED AREA SHALL BE ADJUSTED TO GRADE. ANY OF THESE STRUCTURES LOCATED WITHIN PAVEMENT, DRIVEWAYS, OR OTHER TRAVELED AREAS, WHETHER EXISTING OR PROPOSED, SHALL BE EQUIPPED WITH A TRAFFIC RATED, HEAVY DUTY VALVE BOX AND/OR COVER IN ACCORDANCE WITH THE STANDARD DRAWINGS. EXISTING WATER SERVICE BOXES TO REMAIN THAT ARE ENCOUNTERED WITHIN THE PROJECT LIMITS SHALL BE CLEANED OUT, CENTERED OVER THE CURB STOP, AND ADJUSTED TO THE PROPOSED GRADE.

WHERE NEW CONDUIT IS PROPOSED TO CROSS AN EXISTING OR PROPOSED WATER MAIN OR WATER SERVICE, A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE CONDUIT AND THE WATER MAIN OR SERVICE. A MINIMUM OF 3-FEET OF HORIZONTAL CLEARANCE (OUT TO OUT) IS REQUIRED AT LOCATIONS WHERE THE CONDUIT IS PARALLEL TO THE WATER MAIN AND AT LOCATIONS OF WATER LINE THRUST BLOCKS.

A MINIMUM OF 3 FEET OF HORIZONTAL CLEARANCE (OUT TO OUT) SHALL BE MAINTAINED BETWEEN ALL EXISTING WATER MAINS AND FOUNDATIONS FOR POLES, PULL BOXES, PUSH BUTTON PEDESTALS, AND ANY OTHER MISCELLANEOUS ELECTRICAL STRUCTURE.

A MINIMUM OF 4 FEET OF COVER IS REQUIRED PRIOR TO PRESSURE TESTING ANY WATER MAIN. A SUFFICIENT AMOUNT OF BACKFILL SHALL BE INSTALLED TO PROVIDE THE ADEQUATE RESTRAINT IN AREAS WHERE REQUIRED. THE PROPOSED WATER MAIN SHALL BE LOCATED A MINIMUM DISTANCE OF TWENTY (20) FEET AWAY FROM ANY STRUCTURE, OVERHANG OR FOOTER.

ALL VALVE BOXES, SERVICE BOXES, AND FIRE HYDRANTS SHALL BE LOCATED WITHIN THE EASEMENT AREA.

NO TWO (2) ADJACENT FIRE HYDRANTS SHALL BE TAKEN OUT OF SERVICE CONCURRENTLY.

THE CONTRACTOR SHALL COORDINATE HIS WORK SUCH THAT NO WATER CUSTOMER WILL HAVE THEIR SERVICE DISRUPTED MORE THAN TWO (2) TIMES THROUGHOUT THE DURATION OF THIS PROJECT.

ITEM 630 SIGNING, MISC.: PEDESTRIAN CROSSING WARNING SYSTEM FOUNDATION
ITEM 630 SIGNING, MISC.: PEDESTRIAN CROSSING WARNING SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A SOLAR POWERED PEDESTRIAN CROSSING WARNING SIGN SYSTEM. THE "SYSTEM" SHALL BE CONSIDERED ONE PAIR OF WARNING SIGN ASSEMBLIES (ONE ASSEMBLY FOR EACH DIRECTION OF GLICK ROAD). THE SIGNS SHALL INCLUDE FLASHING LEDS ALONG THE SIGN BORDER (BLINKERSIGN BY TAPCO), BE SOLAR POWERED, AND PEDESTRIAN ACTIVATED VIA MICROWAVE DETECTORS AND ADA-COMPLIANT PUSHBUTTONS. THE SYSTEM SHALL BE WIRELESSLY CONTROLLED AND SYNCHRONIZED VIA THE BLINKERBEAM SYSTEM BY TAPCO. EACH SYSTEM COMPONENT SHALL BE COMPLIANT WITH THE MOST CURRENT OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). SEE DETAIL ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

GENERAL REQUIREMENTS

EACH ASSEMBLY SHALL INCLUDE A 30-INCH PEDESTRIAN WARNING SIGN (W11-2) WITH FLASHING YELLOW LEDS ALONG THE SIGN BORDER.

EACH INSTALLATION SHALL BE A COMPLETE ASSEMBLY CONSISTING OF, BUT NOT LIMITED TO, A FOUNDATION FURNISHED AND INSTALLED, AND SIGNS, SIGN MOUNTING HARDWARE, DETECTORS, SOLAR PANEL, POLE, AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.) FURNISHED AND INSTALLED.

FUNCTIONAL REQUIREMENTS

EACH ASSEMBLY SHALL UTILIZE SOLAR POWER.

THE SYSTEM SHALL BE ACTIVATED VIA PASSIVE PEDESTRIAN DETECTION (MICROWAVE PRESENCE SENSOR) AND PUSHBUTTON ON EACH ASSEMBLY.

THE SIGN LEDS SHALL BE NORMALLY DARK, SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AFTER 10 SECONDS (BASED ON OMUTCD PROCEDURES FOR TIMING OF PEDESTRIAN CLEARANCE INTERVALS).

THE SIGN ASSEMBLY ON THE OPPOSITE SIDE OF THE ROAD FROM THE ASSEMBLY WHICH DETECTS APPROACHING PEDESTRIANS SHALL BE WIRELESSLY ACTIVATED.

ALL LED INDICATIONS SHALL BE WIRELESSLY SYNCHRONIZED (ALL LIGHTS WILL TURN ON WITHIN 120 MSEC AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE).

THE SIGN LED INDICATIONS SHALL FLASH SIMULTANEOUSLY AT MORE THAN 50 BUT LESS THAN 60 TIMES PER MINUTE.

THE UNIT SHALL BE CAPABLE OF RUNNING UP TO 30 DAYS WITHOUT SUNLIGHT.

IF VOLTAGES OVER 50V AC OR DC ARE PRESENT, GROUNDING AND BONDING REQUIREMENTS SPECIFIED IN THE ODOT CMS SHALL BE FOLLOWED.

MATERIALS

FURNISH A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, A FOUNDATION AND SIGNS, SIGN MOUNTING HARDWARE, DETECTORS, SOLAR PANEL, POLE, AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.). THE ASSEMBLY INCLUDES THE FOLLOWING ITEMS:

1. SIGNS

- THE SIGNS SHALL INCLUDE 8 AMBER LEDS ALONG THE SIGN BORDER (BLINKERSIGN MODEL BY TAPCO).
- ALL SIGN ASSEMBLIES SHALL USE ANTI-VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.
- ALL EXPOSED HARDWARE SHALL BE ANTI-VANDAL.

2. CONTROL CIRCUIT

- WHEN ACTIVATED, THE LED INDICATIONS IN EACH OF THE DESIGNATED SIGN FACES SHALL FLASH SIMULTANEOUSLY.
- THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT (NEMA 4) TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.
- THE LEDS SHALL BE SEALED AGAINST DUST AND

MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250-1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.

3. BATTERY AND SOLAR PANELS (FURNISHED AND INSTALLED BY CITY OF DUBLIN)

- THE SOLAR PANEL AND/OR CONTROLLER MANUFACTURER WILL PROVIDE SIGNED COPIES OF CALCULATIONS USED TO SIZE THE SOLAR PANEL AND BATTERIES. INCLUDED IN THESE CALCULATIONS WILL BE THE INSOLATION VALUE USED AND ITS SOURCE, THE SOLAR PANEL EFFICIENCY, CHARGER/CONTROLLER EFFICIENCY, INVERTER EFFICIENCY, PROPOSED LED LAMP LOAD, AND A FIGURE REPRESENTING ANTICIPATED MISCELLANEOUS LOSSES.
- THE SOLAR PANEL MANUFACTURER MUST TEST PANEL ACCORDING TO IEC61215 OR EQUIVALENT APPROVED STANDARD. SOLAR PANEL MOUNTING MUST BE RATED FOR 90MPH DESIGN WIND.
- BATTERY UNIT SHALL BE A 12VDC, 40 AHR MINIMUM, SEALED GEL OR AGM LEAD ACID BATTERY. BATTERIES SHALL HAVE A WRITTEN TWO YEAR FULL REPLACEMENT WARRANTY.
- THE SOLAR PANEL SHALL PROVIDE A MINIMUM OF 55 WATTS PEAK TOTAL OUTPUT.
- THE SOLAR PANEL SHALL BE MOUNTED TO AN ALUMINUM PLATE AND BRACKET (COATED TO MATCH THE SUPPORT POLE) AND ANGLED TO PROVIDE MAXIMUM OUTPUT.
- ALL FASTENERS USED SHALL BE ANTI-VANDAL.

4. WIRELESS RADIO (FURNISHED AND INSTALLED BY CITY OF DUBLIN)

- RADIO CONTROL SHALL OPERATE ON A 902 MHZ TO 928 MHZ FREQUENCY HOPPING SPREAD SPECTRUM NETWORK, WI-FI OR APPROVED EQUAL.
- RADIO SHALL INTEGRATE COMMUNICATION OF LED CONTROL CIRCUIT TO ACTIVATE SIGN FROM PEDESTRIAN DETECTOR INPUT.
- THE RADIO SHALL BE SYNCHRONIZED SO ALL OF THE REMOTE LED INDICATIONS WILL TURN ON WITHIN 120 MSEC OF EACH OTHER AND REMAIN SYNCHRONIZED THROUGH-OUT THE DURATION OF THE FLASHING CYCLE.
- RADIO SYSTEMS SHALL OPERATE FROM: 3VDC TO 15VDC.

5. PUSHBUTTON

- THE PUSHBUTTON SHALL BE A POLARA BULLDOG MODEL NO. BDL3-Y WITH POLARA BULLDOG MOUNTING, MODEL NO. APBC-Y.
- A CLEAR BEAD OF SILICONE SEALANT SHALL BE APPLIED TO THE TOP OF THE PUSHBUTTON HOUSING (1 INCH EACH SIDE OF TOP CENTER) AGAINST THE POLE TO PREVENT WATER FROM ENTERING THE BACK OF THE PUSHBUTTON HOUSING.
- PEDESTRIAN PUSHBUTTON SIGNS SHALL BE PROVIDED AND INCLUDE THE LEGEND "PUSH BUTTON TO TURN ON WARNING LIGHTS". SIGNS SHOULD BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON. THE BOTTOM OF THE SIGN SHALL BE MOUNTED JUST ABOVE THE TOP OF THE PUSHBUTTON. MOUNT THE CENTER OF THE PUSHBUTTON 42" ABOVE THE PEDESTRIAN PATHWAY SURFACE.

6. PASSIVE (MICROWAVE) PEDESTRIAN DETECTOR UNIT

- THE UNIT SHALL BE CAREFULLY POSITIONED AND CALIBRATED TO MINIMIZE THE POTENTIAL FOR FALSE ACTIVATIONS.
- ALL EXPOSED HARDWARE AND FASTENERS SHALL BE ANTI-VANDAL.

7. PEDESTAL SHAFT AND BASE

- POLE AND BASE SHALL BE MANUFACTURED BY TAPCO.
- MOUNT ON A STANDARD 4.5-INCH OD ALUMINUM PEDESTAL POLE WITH CAST ALUMINUM TRANSFORMER BASE (15-IN. TALL, 12.75-IN. BOLT CIRCLE).
- A 13 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED OTHERWISE IN THE PLANS.
- POLE AND BASE SHALL BE POWDER COATED MATCHING FEDERAL BROWN (TIGER DRYLAC RAL 8016 49/66080).

8. FOUNDATION

- FOUNDATION SHALL BE POURED CONCRETE WITH 2'X2' SQUARE FORMED TOP.
- ANCHOR BOLTS SHALL BE 42" J-BOLTS BY TAPCO.

CONSTRUCTION

THE SYSTEM SHALL BE ASSEMBLED AND CONSTRUCTED AS SHOWN AND SPECIFIED ON THE PLANS.

WARRANTY

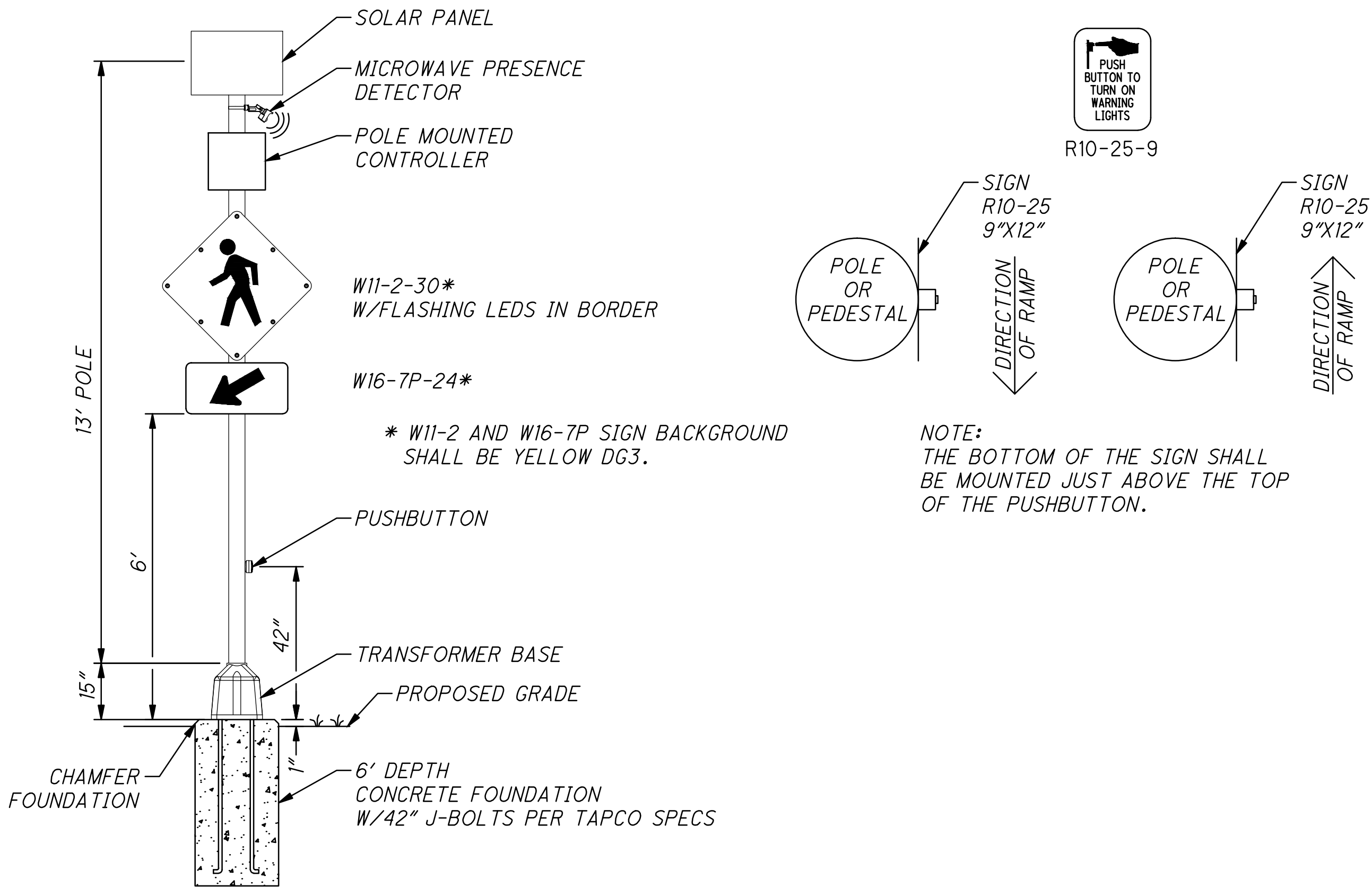
WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE.

MEASUREMENT

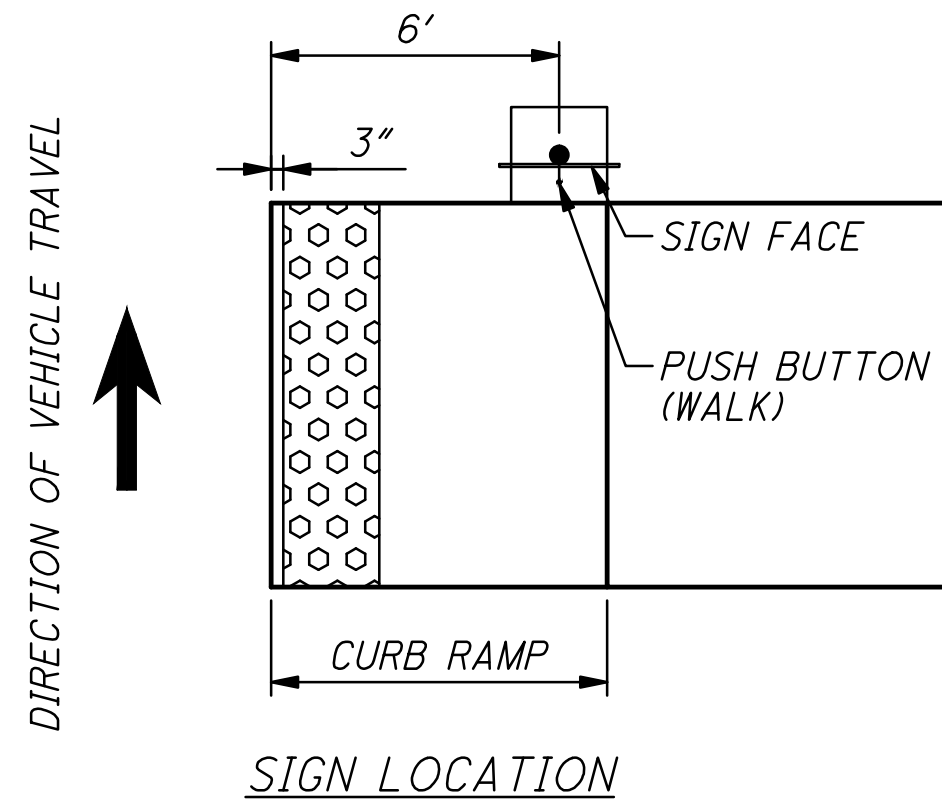
THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS, TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL SYSTEM.

PAYMENT

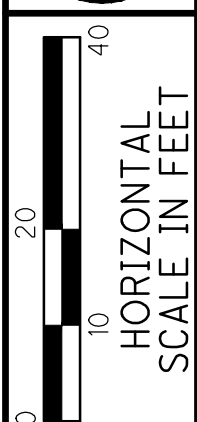
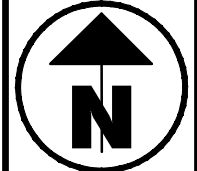
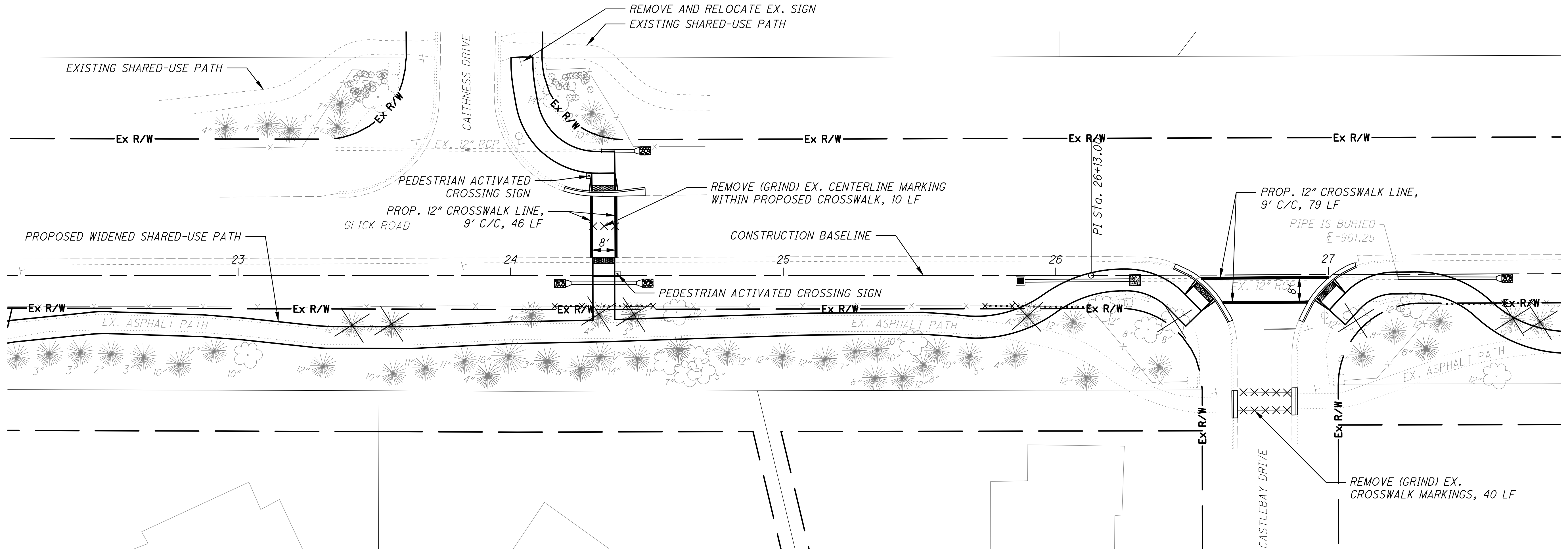
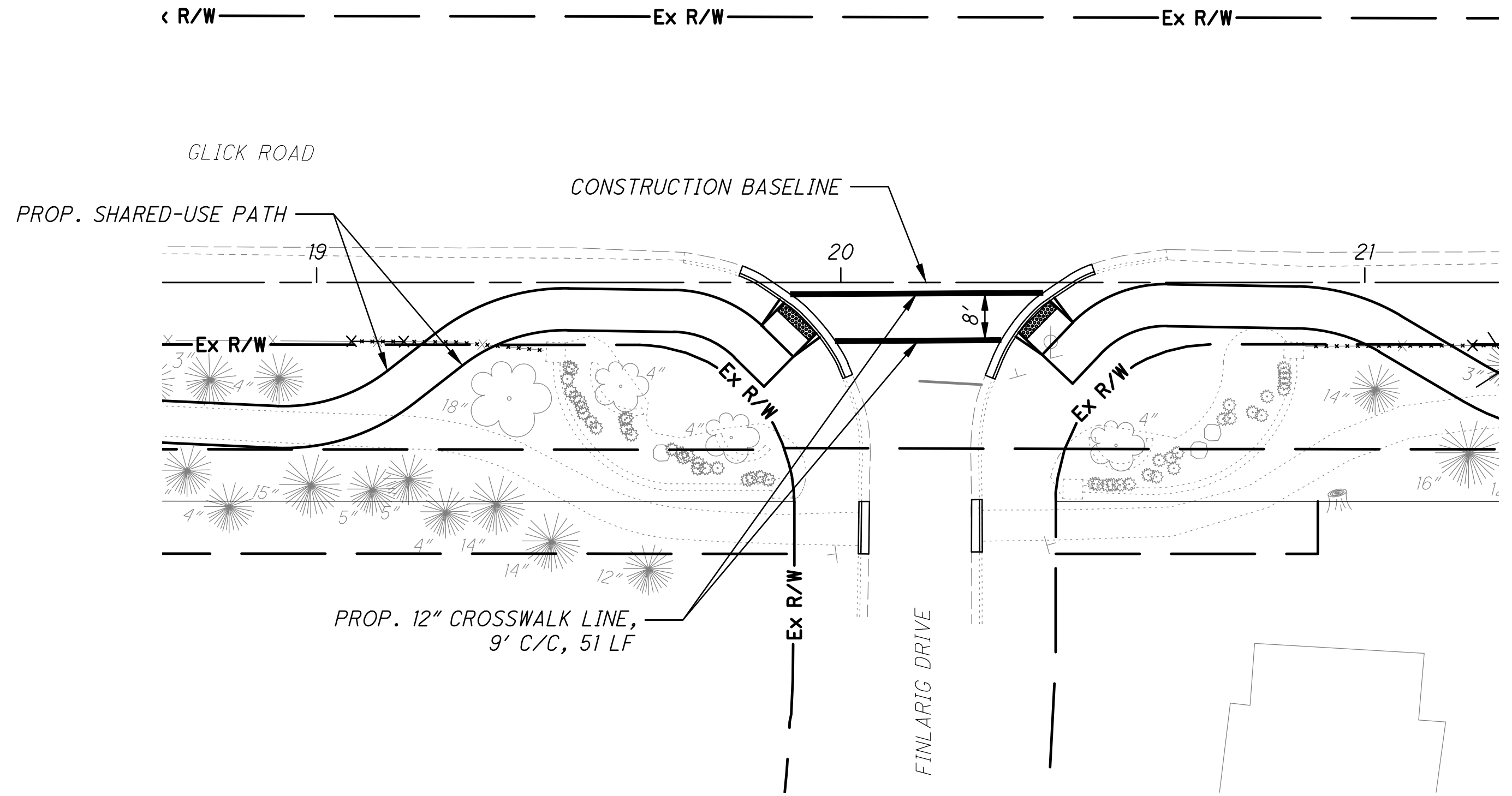
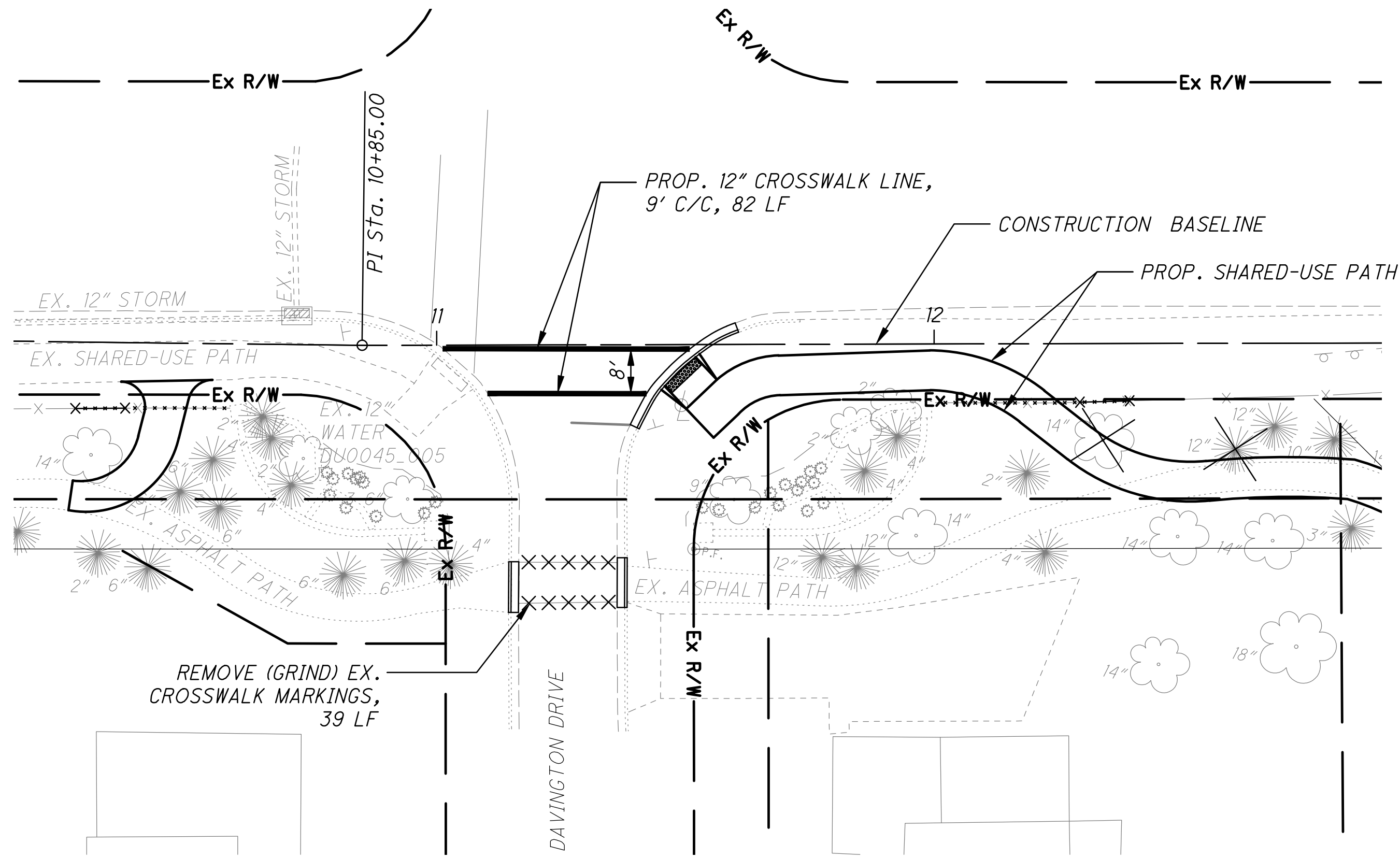
PAYMENT WILL BE AT THE CONTRACT LUMP SUM PRICE BID FOR ITEM 630 SIGNING, MISC.: PEDESTRIAN CROSSING WARNING SYSTEM FOUNDATION AND ITEM 630 SIGNING, MISC.: PEDESTRIAN CROSSING WARNING SYSTEM.



ITEM 630 SIGNING, MISC.: PEDESTRIAN CROSSING WARNING SYSTEM FOUNDATION
ITEM 630 SIGNING, MISC.: PEDESTRIAN CROSSING WARNING SYSTEM
NOT TO SCALE



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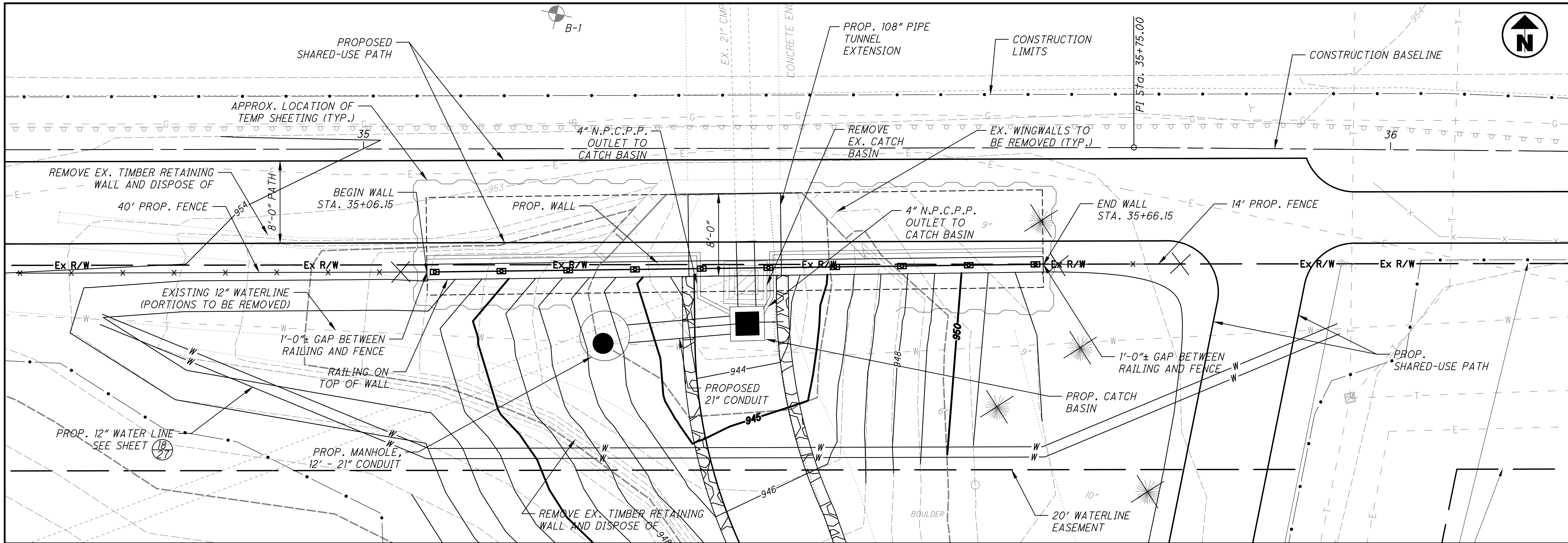


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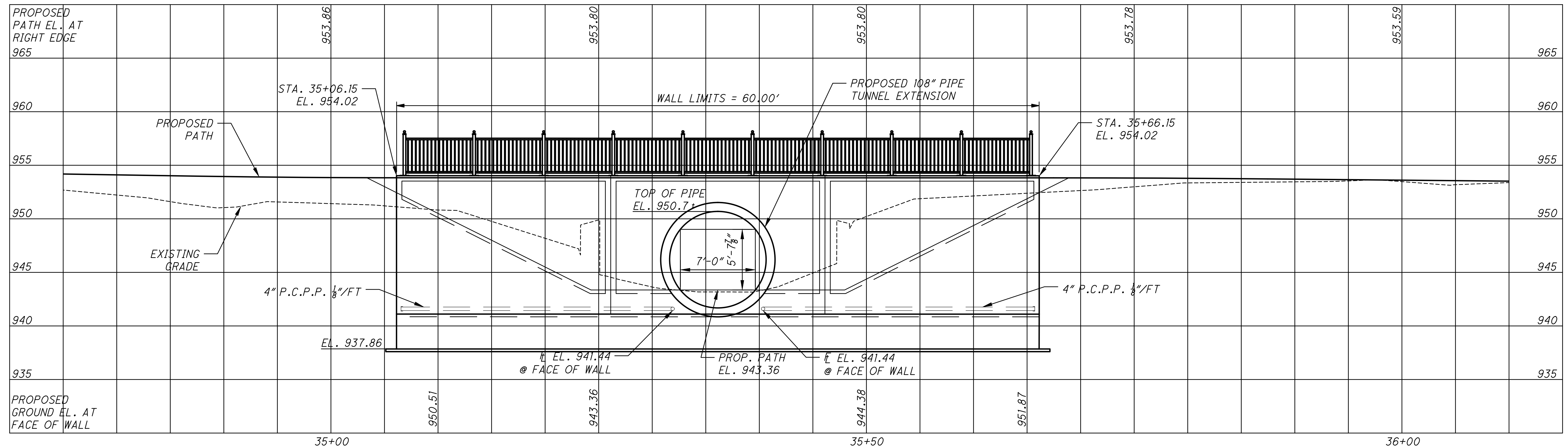
GLICK ROAD SHARED-USE PATH SECTION 1
TRAFFIC CONTROL PLAN

GLICK ROAD

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PLAN



ELEVATION
(EAST TUNNEL)

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
SS834 DATED 07/17/15

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, WITH 2015 INTERIM SPECIFICATIONS AND ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING:

DESIGN LOADING: 240 PSF LIVE LOAD SURCHARGE

DESIGN STRESSES:

CAST-IN-PLACE STRUCTURES
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60000 PSI
WELDED WIRE FABRIC - 70 KSI

FOUNDATION BEARING RESISTANCE:

SPREAD FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 2.65 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 2.79 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 7.3 KIPS PER SQUARE FOOT.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATIONS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO DUBLIN SECTIONS 102.05 AND 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING PLANS MAY BE INSPECTED AT THE CITY OF DUBLIN:

THE CITY OF DUBLIN, OHIO
ENGINEERING DEPARTMENT
5800 SHIER-RINGS ROAD
DUBLIN, OH 43016
614-410-4631

DEMOLITION AND CONSTRUCTION: IN REMOVING EXISTING MATERIAL, THE CONTRACTOR SHALL EXERCISE CARE TO PREVENT DAMAGE TO THOSE PARTS OF THE STRUCTURES WHICH ARE TO REMAIN IN PLACE. ANY PORTION OF THE STRUCTURES DAMAGED DURING DEMOLITION AND CONSTRUCTION BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

PROPOSED WORK:

THIS PORTION OF THE PROJECT CONSISTS OF, BUT IS NOT LIMITED TO THE FOLLOWING WORK:

WEST TUNNEL:

1. REMOVAL OF EXISTING PAVED ASPHALT INVERT
2. REPAIR DAMAGED EXISTING CULVERT WITH CARBON FIBER (AS DIRECTED BY ENGINEER)
3. PAVING OF EXISTING CULVERT INVERT PER ITEM 611 - FIELD PAVING OF EXISTING PIPE, AS PER PLAN
4. APPLICATION OF SPRAY LINER TO EXISTING CULVERT PER SS834
5. INSTALLATION OF PRE-MANUFACTURED STONE VENEER ON FASCIA OF EXISTING HEADWALLS AND WINGWALLS

EAST TUNNEL:

1. REMOVAL OF EXISTING PAVED ASPHALT INVERT
2. REMOVAL OF PORTIONS OF EXISTING CONCRETE FOOTING AND WINGWALL (SOUTHSIDE ONLY)
3. CONSTRUCTION OF CAST-IN-PLACE CONCRETE RETAINING WALL AND FOOTING (SOUTHSIDE ONLY)
4. INSTALLATION OF ONE ADDITIONAL PRECAST CONCRETE PIPE SECTION (9'-0" DIAMETER) (SOUTHSIDE ONLY)
5. CONSTRUCTION OF AND BACKFILLING BEHIND CAST-IN-PLACE CONCRETE RETAINING WALL STEM (INCLUDING INSTALLATION OF DRAINAGE SYSTEM) (SOUTHSIDE ONLY)
6. REPAIR DAMAGED EXISTING CULVERT WITH CARBON FIBER (AS DIRECTED BY ENGINEER)
7. PAVING OF EXISTING CULVERT INVERT WITH ITEM 511 CLASS C CONCRETE
8. APPLICATION OF SPRAY LINER TO EXISTING CULVERT PER SS834
9. INSTALLATION OF PRE-MANUFACTURED STONE VENEER ON FASCIA OF NEW AND EXISTING HEADWALLS AND WINGWALLS
10. SEALING OF INTERIOR SURFACES OF CONCRETE PIPE

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THIS WORK CONSISTS OF THE REMOVAL OF PORTIONS OF THE FOOTING, WINGWALLS OF EXISTING PIPE HEAD WALL, AND EXISTING PIPE PAVED INVERT. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING REMOVAL TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED/INCORPORATED INTO THE PROPOSED STRUCTURE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO EXTRA COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR. ALL REMOVALS ARE COVERED BY THIS LUMP SUM ITEM UNLESS SPECIFIED ELSEWHERE IN THE PLANS.

MEASUREMENT & PAYMENT: THE CITY WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE CITY WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

UTILITIES:

SUPPORT AND PROTECTION OF ALL UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COSTS FOR THE REPAIR AND RESTORATION OF EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COSTS ASSOCIATED WITH THE ABOVE WORK RESPONSIBILITIES SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS ITEMS.

PRIOR TO EXCAVATION, THE CONTRACTOR SHALL GIVE A 48-HOUR NOTICE TO THE OHIO UTILITIES PROTECTION SERVICE(OUPS) BY CALLING 811. A 48-HOUR NOTICE SHALL BE GIVEN TO THE OWNERS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

USE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE CITY OF COLUMBUS CMS 203. PLACE AND COMPACT BACKFILL ACCORDING TO 203.06 AND 203.07, EXCEPT PLACE IN 6" LOOSE LIFTS AND COMPACT TO A MINIMUM OF 98% OF MAXIMUM LABORATORY DRY DENSITY.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING:

SHEET PILING FOR TEMP SHORING SHALL BE ASTM A572 GR 50 STEEL WITH A MIN SECTION MODULUS OF 19.5 IN³/T AND A MIN EMBEDMENT OF 15 FT.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

THIS ITEM SHALL CONSIST OF THE APPLICATION OF BOTH AN EPOXY AND URETHANE SEALER TO THE CONCRETE SURFACES DESIGNATED ON THE PLANS IN ACCORDANCE WITH THE SPECIFICATION 512 WITH THE EXCEPTION THAT THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL STANDARD NO. 595B-15526 (BLUE). SEALING SHALL NOT BE DONE UNTIL ALL SECTIONS OF PIPE HAVE BEEN INSTALLED. IN ADDITION TO REQUIRED CLEANING, SURFACE PREPARATION SHALL INCLUDE REMOVAL OF ANY RUST STAINS BY EITHER WATER BLAST OR SAND BLAST METHODS AS DESCRIBED IN THE SPECIFICATIONS.

ITEM 516 -1/2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN:

THIS ITEM SHALL MEET THE REQUIREMENTS OF ITEM 516 EXCEPT THAT THE MATERIAL USED SHALL CONFORM TO ASTM D 1752, TYPE I (RECYCLED RUBBER EXPANSION MATERIAL).

ITEM 611 - FIELD PAVING OF EXISTING PIPE, WEST TUNNEL, AS PER PLAN (108" DIA. CMP, TYPE A):

THE BOTTOM PORTION OF THE EXISTING CONDUIT SHALL BE FIELD PAVED WITH ITEM 511 CLASS C CONCRETE WITH NO. 7, 78 OR 8 AGGREGATE AS SHOWN ON SHEET [676]. THE PAVING SHALL BE REINFORCED WITH 2x2-W0.9xW0.9 GALVANIZED WELDED WIRE FABRIC OR COMPARABLE IN WEST TUNNEL. THE WIRE FABRIC SHALL HAVE A WIDTH 4 INCHES LESS THEN THE CONDUIT NEAR EACH EDGE AND AT THE CENTER OF THE MESH AT POINTS NOT MORE THEN 4 FEET APART ALONG THE FLOW LINE OF THE CULVERT. PROVIDE SUPPORT BENEATH THE MESH WHERE NECESSARY USING GALVANIZED SUPPORT CHAIRS OR #4 REINFORCING STEEL, MEETING THE MATERIAL REQUIREMENTS OF 509.02. ANY GALVANIZING OR OTHER COATING MATERIAL DAMAGED DUE TO PLACEMENT OR TACK WELDING SHALL BE REPAIRED. THE REPAIR SHALL CONSIST OF WIRE BRUSHING AND PAINTING THE DAMAGED AREA WITH ZINC RICH PAINT.

THE CONCRETE PAVING SHALL INCLUDE A 3 INCH THICK CRADLE MEASURED FROM THE TOP OF THE CORRUGATIONS OF THE CONDUIT TO A HEIGHT 12 INCHES ABOVE FINISHED "FLOOR". A FINISHED "FLOOR" SHALL BE POURED TO A WIDTH OF APPROXIMATELY 7 FEET. THE 3 INCH THICK CRADLE SHALL EXTEND 12 INCHES ABOVE THE FLOOR IN THE WEST PIPE ONLY. MAINTAIN POSITION OF THE MESH WHILE PLACING THE CONCRETE. AFTER PLACING, THE CONCRETE SHALL BE STRUCK OFF WITH A TEMPLATE TO PRODUCE THE PROPER RADIUS, AND FINISHED WITH A FLOAT TO PRODUCE A SMOOTH FINISH. THE CURING OF THE CONCRETE SHALL BE IN ACCORDANCE WITH 451.11. MAKE SLIGHT REVERSE INVERT SHAPE TO THE CONCRETE "FLOOR" TO ALLOW DRAINAGE TOWARD THE CENTER. ENSURE A LONGITUDINAL SLOPE FOR DRAINAGE OUT OF THE END OF THE PIPE. PLACE A CONSTRUCTION TOOLED JOINT EVERY 8 FEET. AFTER 24 HOURS, THE JOINTS WILL BE SAW CUT TO A DEPTH OF 2 INCHES.

THE AREA TO BE PAVED SHALL BE CLEANED TO REMOVE ALL DEBRIS AND SEDIMENT.

THE COST OF PAVING MATERIAL, LABOR AND EQUIPMENT NEEDED TO COMPLETE THE ITEM OF WORK SHALL BE INCLUDED IN THE CONTRACT PRICE PER LINEAR FOOT FOR ITEM 611 - FIELD PAVING OF EXISTING PIPE, AS PER PLAN.

ITEM 611 - 108" CONDUIT, TYPE D, 706.02, AS PER PLAN:

FOLLOWING THE REMOVAL OF THE EXISTING WINGWALLS AND PORTION OF FOOTINGS, THE FACE OF THE CONDUIT HEADWALL SHALL BE FIELD MEASURED. PROPOSED CONDUITS ABUTTING THE FACE SHALL BE FABRICATED OR RETROFITTED AS NECESSARY AND AS APPROVED BY THE CITY OF DUBLIN ENGINEER TO MATCH FLUSH WITH THE FACE OF THE EXISTING CONDUIT HEADWALL TO REMAIN. CONDUIT JOINTS SHALL CONFORM TO THE CITY OF COLUMBUS CMS 901.15.

FIELD MEASUREMENT OF EXISTING CONDUITS AND SPECIAL FABRICATION OR RETROFITTING OF CONDUIT ENDS SHALL BE DONE AT NO ADDITIONAL COST TO THE PROJECT.

CONCRETE FINISHING:

CHAMFER EXPOSED CONCRETE EDGES 3/4" BY 3/4" UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

ITEM SPECIAL: MANUFACTURED STONE VENEER

DESCRIPTION: THIS WORK SHALL CONSIST OF FURNISHING ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROVIDE ACCEPTABLE MANUFACTURED STONE VENEER AS DESCRIBED BY THE PLAN, AND THESE PROVISIONS.

MATERIALS: MATERIALS SHALL BE A FOLLOWS:

CEMENT FOR MORTAR: 701.07 (MORTAR TO BE TYPE S)
SAND FOR MORTAR: 703.03
COLORING AGENTS FOR MORTAR: MINERAL OXIDES ACCEPTABLE TO THE ENGINEER.

JOINT SEALANT: MULTICOMPONENT POLYURETHANE SEALANT AS PER FEDERAL SPECIFICATION TT-S-00227E, TYPE II. THE COLOR SHALL MATCH THE MORTAR COLOR TO THE SATISFACTION OF THE ENGINEER.

MANUFACTURED STONE:

1. MANUFACTURED STONE SHALL BE GREAT LAKE LIMESTONE. THE MANUFACTURED STONE SHALL BE REASONABLY UNIFORM IN COLOR, DURABLE AND FREE OF SEAMS, CRACKS, INCLUSIONS, OR OTHER STRUCTURAL DEFECTS. THE MANUFACTURED STONE SHALL BE AS MANUFACTURED BY DUTCH QUALITY STONE OR AN APPROVED ALTERNATIVE.

2. PHYSICAL PROPERTIES:
A. COMPRESSIVE STRENGTH - ASTM C67: MINIMUM 2,500 PSI
B. SHEAR (ADHESION) STRENGTH - ASTM C482: MINIMUM 115 PSI
C. TENSILE STRENGTH: MINIMUM 590 PSI
D. ABSORPTION - ASTM C140: MAXIMUM 13.5 PERCENT
E. DURABILITY - ASTM C666: AFTER 300 CYCLES THE RELATIVE DYNAMIC MODULUS IS 92 PERCENT

MORTAR: PER MANUFACTURER'S INSTRUCTIONS.

1. SETTING MORTAR SHALL BE COMPOSED OF ONE PART MASONRY CEMENT AND BETWEEN TWO AND ONE-FOURTH AND TWO AND THREE-FOURTHS PART SAND MIXED WITH POTABLE WATER.
2. THE MORTAR SHALL BE HAND OR MACHINE MIXED, AS MAY BE REQUIRED BY THE ENGINEER. IN THE PREPARATION OF HAND MIXED MORTAR, THE SAND AND CEMENT SHALL BE THOROUGHLY MIXED TOGETHER IN A CLEAN, TIGHT, MORTAR BOX UNTIL THE MIXTURE IS OF UNIFORM COLOR, AFTER WHICH CLEAN WATER SHALL BE ADDED IN SUCH QUANTITY AS TO FORM A STIFF PLASTIC MASS. MACHINE MIXED MORTAR SHALL BE PREPARED IN AN APPROVED MIXER AND SHALL BE MIXED NOT LESS THAN 3 MINUTES NOR MORE THAN 10 MINUTES. MORTAR SHALL BE USED WITHIN 1 1/2 HOURS AFTER MIXING AND BEFORE FINAL SET BEGINS. RETEMPERING OF MORTAR SHALL BE DONE AS NECESSARY TO MAINTAIN PROPER CONSISTENCY DURING PLACEMENT. ALL MORTAR SHALL BE TYPE S.

3. GROUTING MORTAR SHALL APPROXIMATE THE STONE COLOR

SAMPLE PANEL: A SAMPLE PANEL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING:

1. CONSTRUCT WHERE APPROVED BY ENGINEER.
2. THE PANEL SHALL BE AT LEAST 3 FEET LONG BY 4 FEET HIGH AND SHALL SHOW ALL DETAILS OF CONSTRUCTION THAT WILL BE USED IN THE COMPLETED WORK, INCLUDING AT LEAST ONE 90 DEGREE CORNER IF ANY 90 DEGREE CORNERS ARE SHOWN IN THE PLANS.
3. ADDITIONAL PANELS SHALL BE CONSTRUCTED AS REQUIRED BY THE ENGINEER IF THE ORIGINAL PANEL CONSTRUCTION IS NOT ACCEPTABLE.
4. MANUFACTURED STONE APPLICATION SHALL NOT BEGIN UNTIL THE SAMPLE PANEL IS APPROVED BY THE ENGINEER.
5. THE ACCEPTABLE SAMPLE SHALL BE RETAINED AS A REFERENCE STANDARD FOR THE PROJECT.
6. THE SAMPLE PANEL SHALL BE REMOVED FROM THE SITE AFTER COMPLETION AND ACCEPTANCE OF THE MANUFACTURED STONE WORK.

SUBSTRATE PREPARATION: ACID WASH THE CONCRETE SURFACE BEFORE APPLYING SCRATCH COARSE. A SCRATCH COARSE OF MORTAR SHALL BE APPLIED APPROXIMATELY 1/8-INCH THICK EVENLY OVER EXPOSED SURFACE AND CURED BEFORE PLACEMENT OF STONE. THE STONE SHALL BE PLACED IN A RANDOM ASHLAR PATTERN.

NO METAL LATH OR CONCRETE NAILS WILL BE USED ON THIS PROJECT. SUBSTRATE PREPARATION SHALL BE THE SCRATCH COARSE.

VENEER APPLICATION: APPLY IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS FOR THE TYPES OF SUBSTRATES ENCOUNTERED.

THE STONE MUST COVER ALL EXPOSED FACES OF THE HEADWALLS/WINGWALLS AS SHOWN IN THE PLANS. STONE VENEER SHALL EXTEND 4 INCHES BELOW FINISH GRADE.

PATTERN AND JOINTS: STONE SHALL BE PLACED IN A RANDOM PATTERN SIMILAR TO AVERY-MUIRFIELD BRIDGE OVER US 33/SR 161 IN DUBLIN, OHIO.

RAKE, CLEAN, AND FINISH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

TEMPERATURE LIMITATIONS OF ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS, SECTION 602.03, SHALL GOVERN.

SPECIAL CARE SHALL BE TAKEN IN PLACING STONE ADJACENT TO EXPANSION JOINTS TO INSURE CLEAR OPENINGS AS SHOWN. IF NECESSARY, THESE STONES SHALL BE CUT, GROUND, OR BUSH-HAMMERED TO EFFECT THE REQUIRED CLEARANCES.

ALL MORTAR JOINTS SHALL BE PROTECTED AND KEPT WET FOR A PERIOD OF THREE DAYS AFTER COMPLETION.

BACK-UP MATERIALS AND PREFORMED JOINT FILLERS SHALL BE NONSTAINING, COMPATIBLE WITH SEALANT AND PRIMER, AND OF A RESILIENT NATURE, SUCH AS CLOSED CELL RESILIENT FORM, SPONGE RUBBER, OR OF A SUPPORTING TYPE, SUCH AS CLOSED CELL RIGID FOAM, CORK OR NONIMPREGNATED FIBERBOARD. MATERIALS IMPREGNATED WITH OIL, BITUMEN OR SIMILAR MATERIALS SHALL NOT BE USED. SIZE AND SHAPE SHALL BE AS INDICATED BY JOINT DETAIL IN DRAWINGS.

DESIGN AGENCY

URS
MAN CLEVELAND COLUMBUS
AT CLEVELAND COLUMBUS
10000 WILSON AVENUE
CLEVELAND, OH 44130-3998

DATE

6/2015

REVIEWED

STRUCTURE FILE NUMBER

N/A

DRAWN

BAD

REVIEWED

DESIGNED

ERM

CHECKED

DRC

GENERAL NOTES - 1 OF 2

RETAINING WALL

ALONG GLICK ROAD

GLICK ROAD

2 / 6

22
27

ITEM SPECIAL: MANUFACTURED STONE VENEER (CONT'D)

SEALANT SHALL NOT ADHERE TO BACK-UP MATERIAL AND SHALL BE AS RECOMMENDED BY SEALANT MANUFACTURER

BOND BREAKERS, WHEN REQUIRED SHALL BE AS RECOMMENDED BY MANUFACTURER OF SEALANT.

SOLVENTS, CLEANING AGENTS AND OTHER ACCESSORY MATERIALS SHALL BE NONSTAINING TO THE STONE AND SHALL BE RECOMMENDED BY SEALANT MANUFACTURER.

PROTECTION OF FINISHED WORK: RECEIPT, STORAGE, AND PROTECTION OF MANUFACTURED STONE WORK PRIOR TO, DURING, AND SUBSEQUENT TO INSTALLATION SHALL BE THE RESPONSIBILITY OF THE MASON CONTRACTOR.

DURING CONSTRUCTION, TOPS OF WALLS SHALL BE CAREFULLY COVERED AT NIGHT, AND ESPECIALLY DURING ANY PRECIPITATION OR OTHER INCLEMENT WEATHER.

AT ALL TIMES, WALLS SHALL BE ADEQUATELY PROTECTED FROM DROPPINGS.

CLEANING: FINISHED STONE WORK SHALL BE WASHED CLEAN AND FREE OF DIRT, MORTAR, AND OTHER OBJECTIONABLE ACCUMULATIONS. MORTAR DROPPINGS AND SMEARS SHALL BE REMOVED AS WORK PROGRESSES. FINAL CLEANDOWN SHALL INCLUDE BRUSHING WITH FIBER BRUSHES AND MILD SOAP OR DETERGENT, AND RINSING WITH CLEAR WATER. NO ACIDS SHALL BE USED WITHOUT PRIOR APPROVAL. STONE WORK SHALL BE PROTECTED FROM RUNDOWN OR SPLASH WHEN USING ACID ON ADJACENT MATERIALS.

METHOD OF MEASUREMENT: THE AREA TO BE PAID FOR SHALL BE THE ACTUAL AREA IN SQUARE FEET OF ALL EXPOSED FACES AND THE AREA EXTENDING BELOW FINAL GRADE AS SHOWN IN THE PLANS (PRIOR TO BACKFILLING) OF MANUFACTURED STONE VENEER, COMPLETED, AND ACCEPTED

BASIS OF PAYMENT: THE AREA, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT BID FOR MANUFACTURED STONE VENEER, WHICH PRICE SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PREPARING ALL MATERIALS, PLACING, INCLUDING ALL LATH, FINISHING AND CLEANING, AND ALL LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

ITEM SPECIAL: POLYURETHANE CAULKING

CAULK VERTICAL CONTRACTION JOINTS WITH POLYURETHANE CAULKING MATERIAL MANUFACTURED FOR OUTDOOR MASONRY. COLOR TO BE BEIGE. METHODS, PROCEDURES AND MATERIALS SHALL ADHERE TO MANUFACTURES SPECIFICATIONS.

ITEM SPECIAL: RAILING (42" HIGH METAL RAILING)

- ALL RAILING MATERIAL SHALL BE HOT DIPPED GALVANIZED AND POWDER COATED BLACK.
- PIPE RAIL SHALL BE ASTM A53, TYPE E OR S GRADE B OR ASTM A501 GRADE B. SQUARE SOLID PICKETS SHALL BE ASTM A500 GRADE B OR ASTM A501.
- EACH POST SHALL BE WELDED TO A 10"x6"x $\frac{3}{8}$ " STEEL PLATE PRIOR TO GALVANIZING AND PAINTING. THAT PLATE ASSEMBLY SHALL THEN BE ANCHORED TO THE TOP OF THE WINGWALL WITH 4-1/2"x6" STAINLESS STEEL STUDS, WASHERS, AND BOLTS.
- WELDING SHALL BE IN ACCORDANCE WITH ANSI/AWS D1.1, STRUCTURAL WELDING CODE.
- FABRICATE AND INSTALL APPROXIMATELY 59' OF 42" HIGH RAIL CONSTRUCTED OF $\frac{1}{4}$ " SCHEDULE 40 HANDRAIL PIPE FOR HORIZONTALS, $\frac{3}{4}$ " SQUARE SOLID PICKETS, NO MORE THAN 4 $\frac{3}{4}$ " ON CENTER, 3"x3" SUPPORT POST WITH BALL CAPS AND 6"x10"x $\frac{3}{8}$ " BASE PLATES. ALL MATERIAL HOT-DIPPED GALVANIZED AND POWDER COATED BLACK, ALL RAILINGS MOUNTED WITH $\frac{1}{2}$ "x4" WEDGE ANCHORS, STAINLESS STEEL HARDWARE.
- WELDED RAISED LETTERS OR NUMBERS SHALL NOT BE PERMITTED ON ANY EXPOSED RAILING SURFACES.
- RAILING MAY BE FABRICATED IN PANELS AND ASSEMBLED IN THE FIELD. ENGINEER SHALL APPROVE PROPOSED FABRICATION METHODS.
- SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BEFORE FABRICATION BEGINS.

METHOD OF MEASUREMENT: 42" HIGH METAL RAILING WILL BE MEASURED BY THE NUMBER OF FEET FROM CENTER-TO-CENTER OF END POSTS FURNISHED AND ERECTED, AS SHOWN IN THE PLAN DETAILS.

BASIS OF PAYMENT: ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO FABRICATE, GALVANIZE, PAINT, AND INSTALL THE METAL RAILING SHALL BE INCLUDED IN THE PER FOOT QUANTITY, ITEM SPECIAL, RAILING (42" HIGH METAL RAILING).

ITEM SPECIAL: CARBON FIBER REPAIR

DESCRIPTION: THIS WORK SHALL CONSIST OF FURNISHING ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO REPAIR LOCALIZED HOLES IN THE EXISTING CORRUGATED METAL PIPES.

MATERIALS: MATERIAL SHALL BE HYDRATECH HYDRAWRAP STRUCTURAL COMPOSITE REPAIR SYSTEM.

SUBSTRATE PREPARATION AND INSTALLATION PROCEDURES SHALL BE PER MANUFACTURER RECOMMENDATIONS.

AN ESTIMATED QUANTITY OF REPAIR AREA IS CARRIED TO THE GENERAL SUMMARY FOR EACH PIPE TO BE USED AS DIRECTED BY THE ENGINEER.

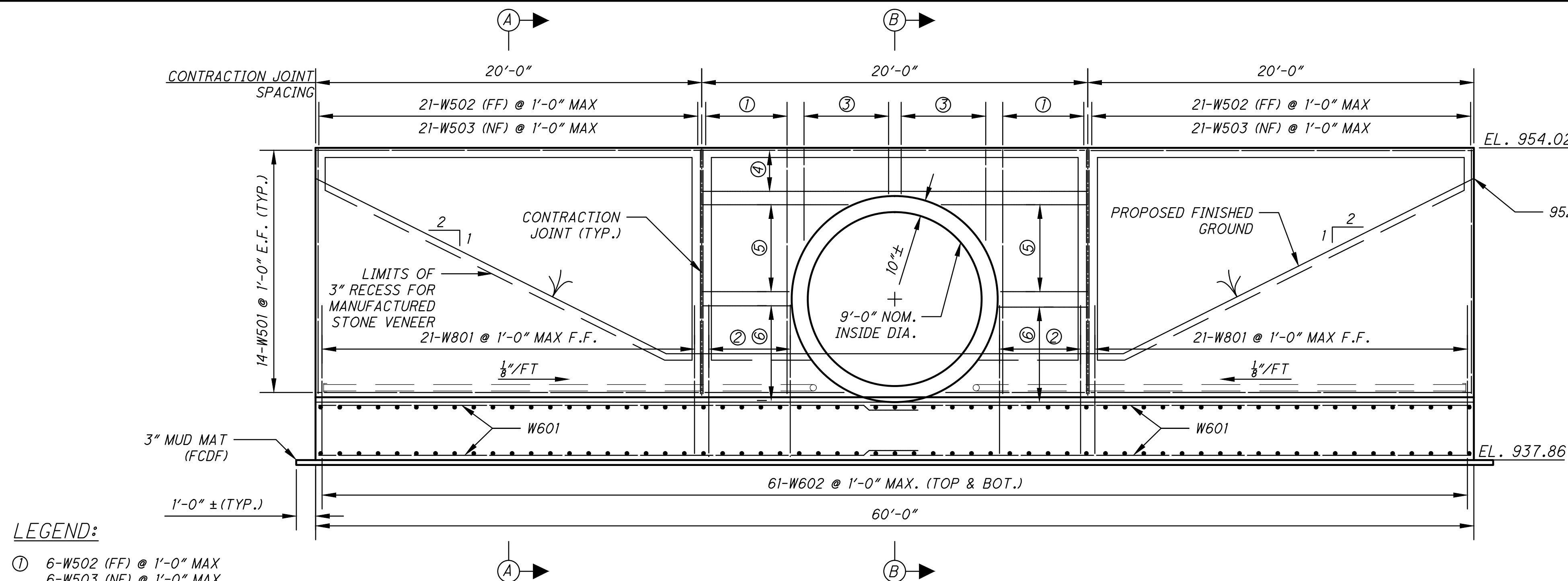
METHOD OF MEASUREMENT: THE AREA TO BE PAID FOR SHALL BE THE ACTUAL AREA IN SQUARE FEET OF LOCALIZED HOLE REPAIR, COMPLETED AND ACCEPTED.

BASIS OF PAYMENT: THE AREA, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT BID FOR CARBON FIBER REPAIR, WHICH PRICE SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PREPARING ALL MATERIALS, INSTALLATION, FINISHING AND CLEANING, AND ALL LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

ABBREVIATIONS:

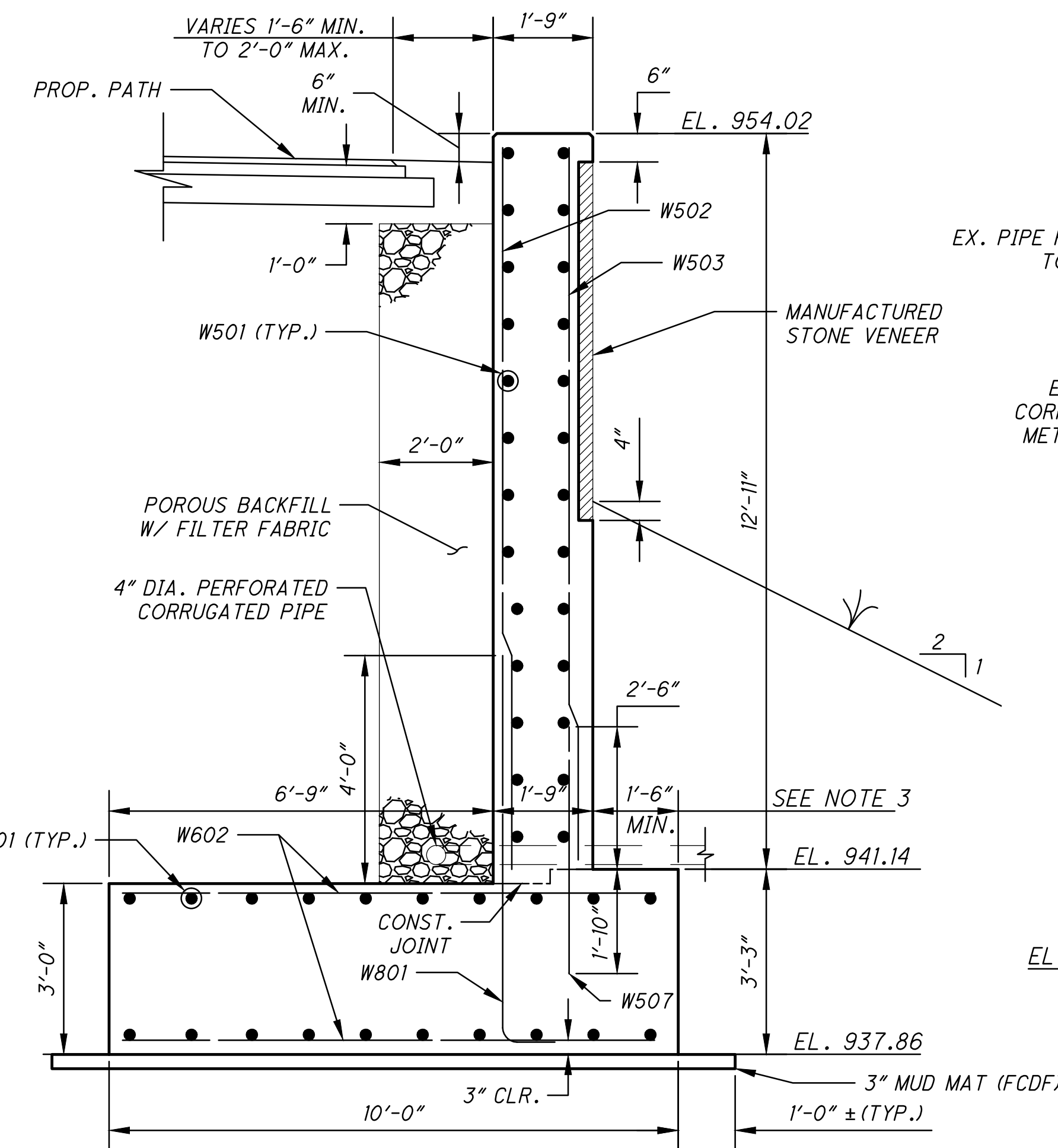
Ⓢ	BASELINE	MAX.	MAXIMUM
Ⓒ	CENTERLINE	MIN.	MINIMUM
APPROX.	APPROXIMATELY	N.F.I.R	NORTH FORK
B.F.	BACK FACE		INDIAN RUN
BOTT.	BOTTOM	OFF.	OFFSET
C.P.P.	CORRUGATED PLASTIC PIPE	P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
C.I.P.	CAST IN PLACE		PROFILE GRADE
C.J.	CONSTRUCTION JOINT	P.F.	PROPOSED
		PROP.	PROPOSED
CLR.	CLEAR	R.A.	REAR ABUTMENT
DIA.	DIAMETER	R.F.	REAR FACE
E.F.	EACH FACE	RT.	RIGHT
EL.	ELEVATION	SPA.	SPACE
E.P.	EDGE OF PAVEMENT	S.O.	SERIES OF
		STA.	STATION
EQ.	EQUAL	STR.	STRAIGHT
EX.	EXISTING	TEMP.	TEMPORARY
EXIST.	EXISTING	T.O.W.	TOP OF WALL
F.A.	FORWARD ABUTMENT	TYP.	TYPICAL
		U.N.O.	UNLESS NOTED OTHERWISE
F.F.	FRONT FACE		
Ⓕ	FLOW LINE	W/	WITH
INV.	INVERT		
L.T.	LEFT		

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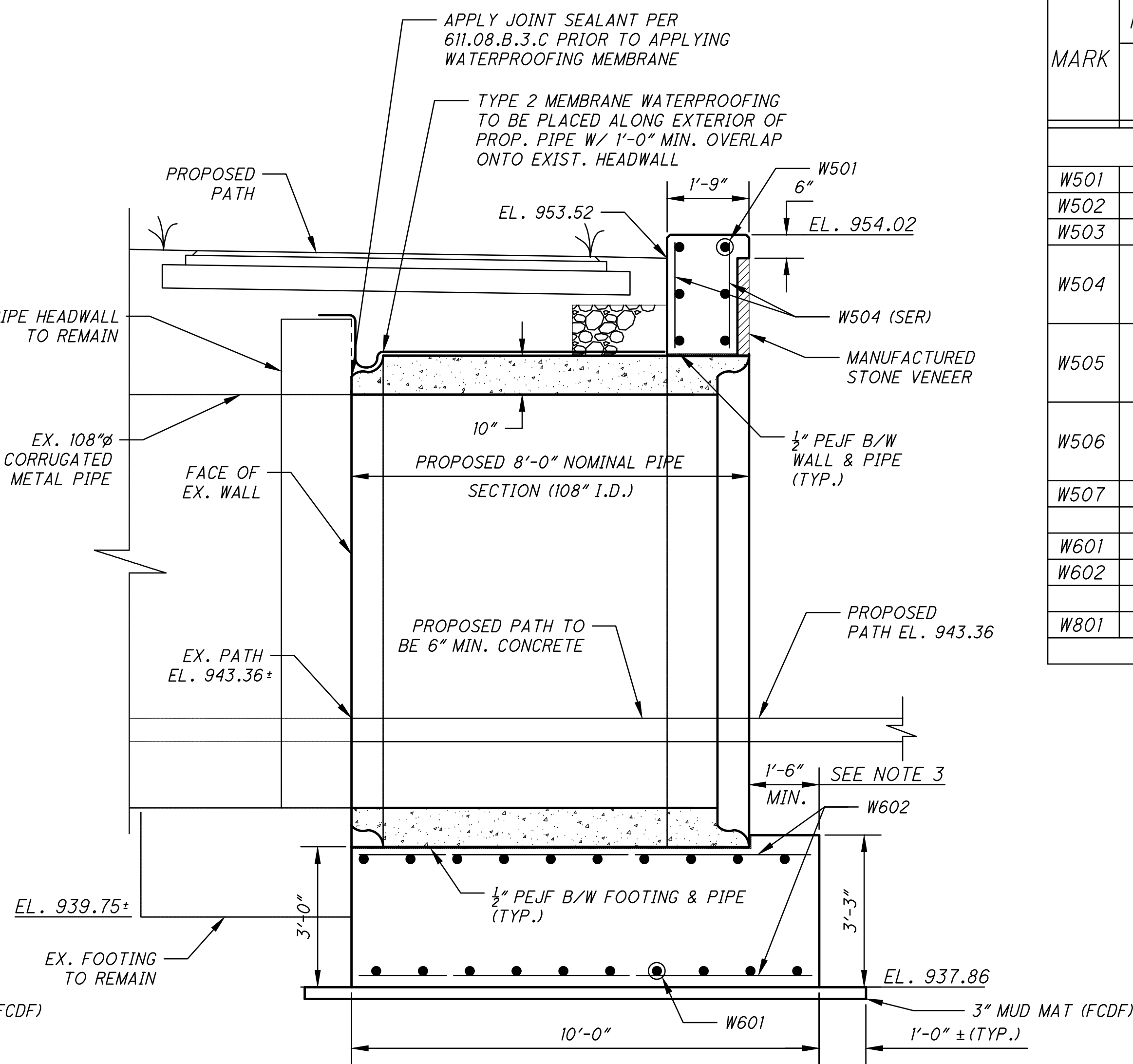
LEGEND:

- ① 6-W502 (FF) @ 1'-0" MAX
6-W503 (NF) @ 1'-0" MAX
- ② 6-W801 (FF) @ 1'-0" MAX
- ③ 1 SER OF 6 W504 (EF) @ 1'-0" MAX
- ④ 3-W501 @ 1'-0" MAX (EF)
- ⑤ 1 SER OF 6-W505 @ 1'-0" MAX (EF)
- ⑥ 1 SER OF 5-W506 @ 1'-0" MAX (EF)

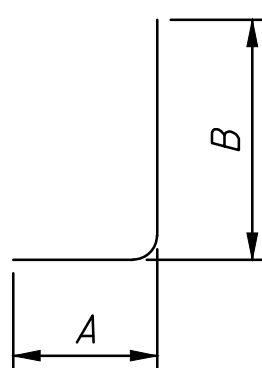
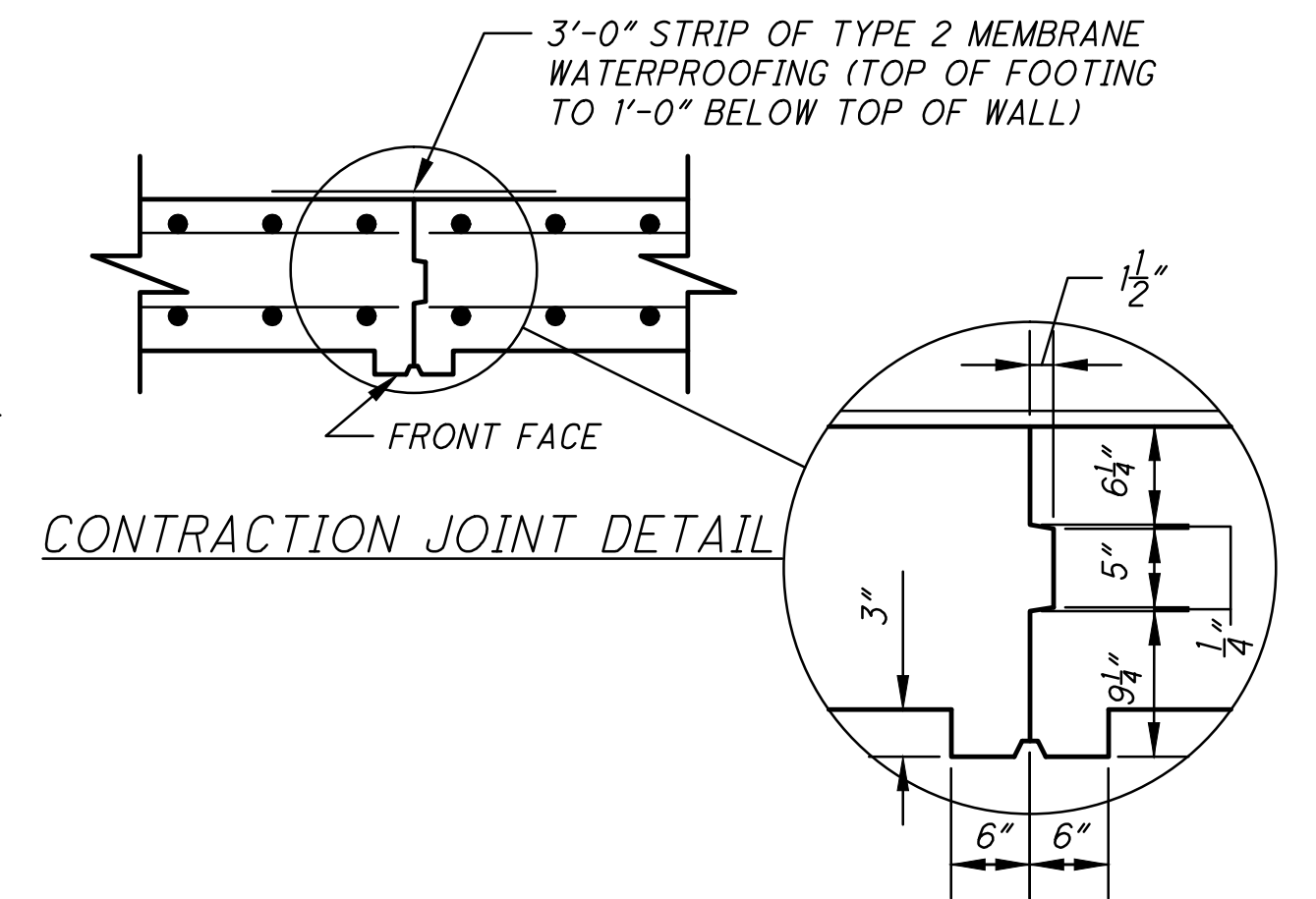


SECTION A-A

ELEVATION
(PROPOSED EAST TUNNEL-SOUTH WALL)



SECTION B-B



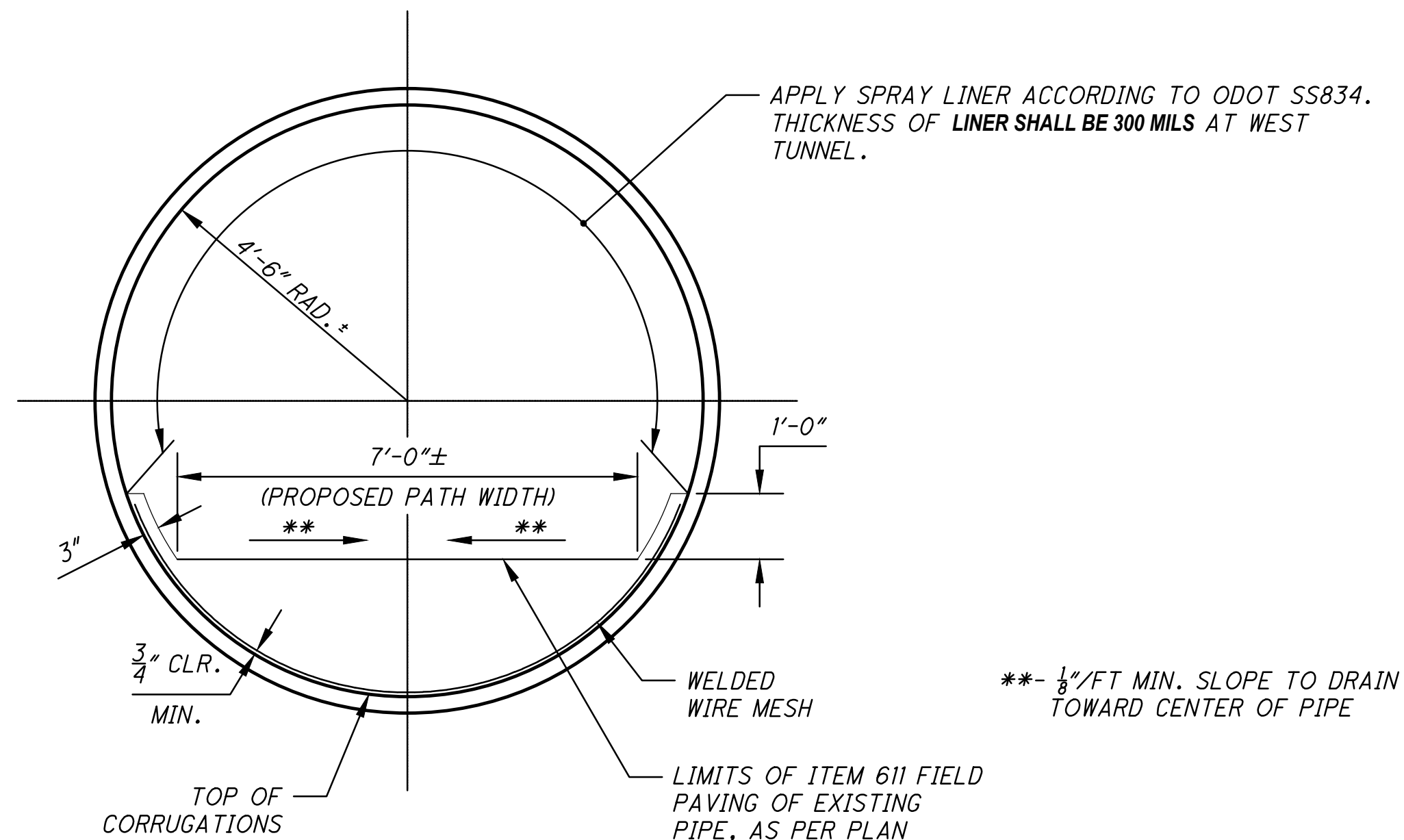
MIN. BAR LAP LENGTHS:	
#5 BAR	2'-5"
#6 BAR	3'-11"

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
RETAINING WALL											
W501	62	19'-8"	1272	STR							
W502	54	13'-0"	732	STR							
W503	54	12'-9"	718	STR							
W504	4 SR OF 6	2'-2" TO 4'-8"	86	STR							0'-6"
W505	4 SR OF 6	4'-3" TO 7'-7"	148	STR							0'-8"
W506	4 SR OF 5	4'-4" TO 7'-4"	122	STR							0'-9"
W507	54	4'-4"	244	STR							
W601	40	31'-10"	1913	STR							
W602	122	9'-8"	1771	STR							
W801	54	7'-10"	1129	1	1'-4"	6'-9"					
TOTAL			8135								

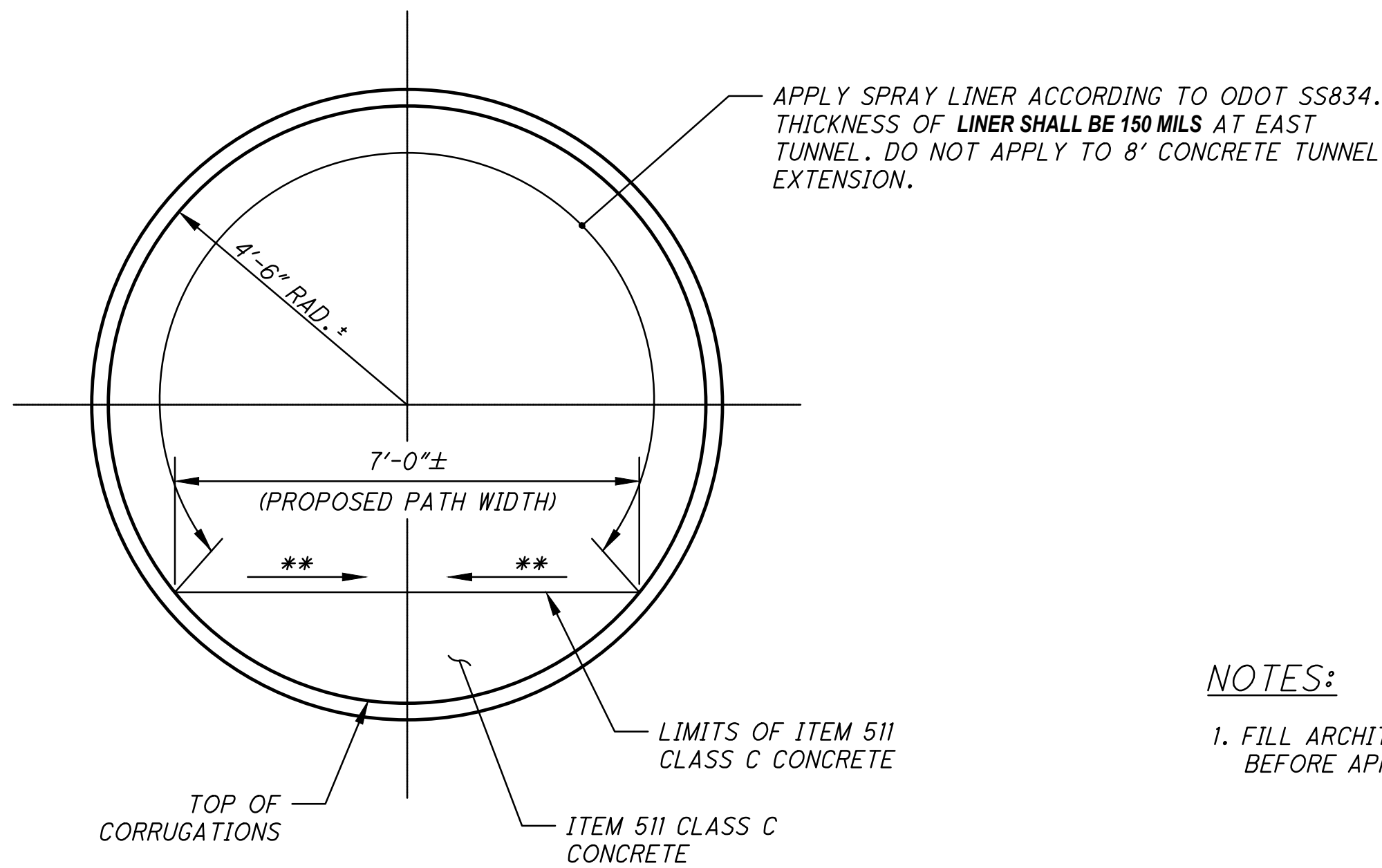
NOTES:

- PROPOSED PIPE SECTION SHALL BE PLACED AGAINST FRONT OF EXISTING WALL IN POSITION TO MINIMIZE OFFSET OF OPENING.
- FOR AESTHETIC FINISH DETAILS SEE SHEET 4/6
- FRONT OF RETAINING WALL SHALL BE CAST FLUSH WITH END OF PIPE. CONTRACTOR SHALL VERIFY ACTUAL DIMENSION OF PIPE INCLUDING BELL WITH FABRICATOR PRIOR TO CONSTRUCTING FOOTING.
- EXPOSED CONCRETE EDGES AWAY FROM STONE VENEER SHALL BE CHAMFERED 3/4"x3/4".
- MAINTAIN 2" MIN. COVER ON ALL REINFORCING STEEL TO CONCRETE SURFACES.

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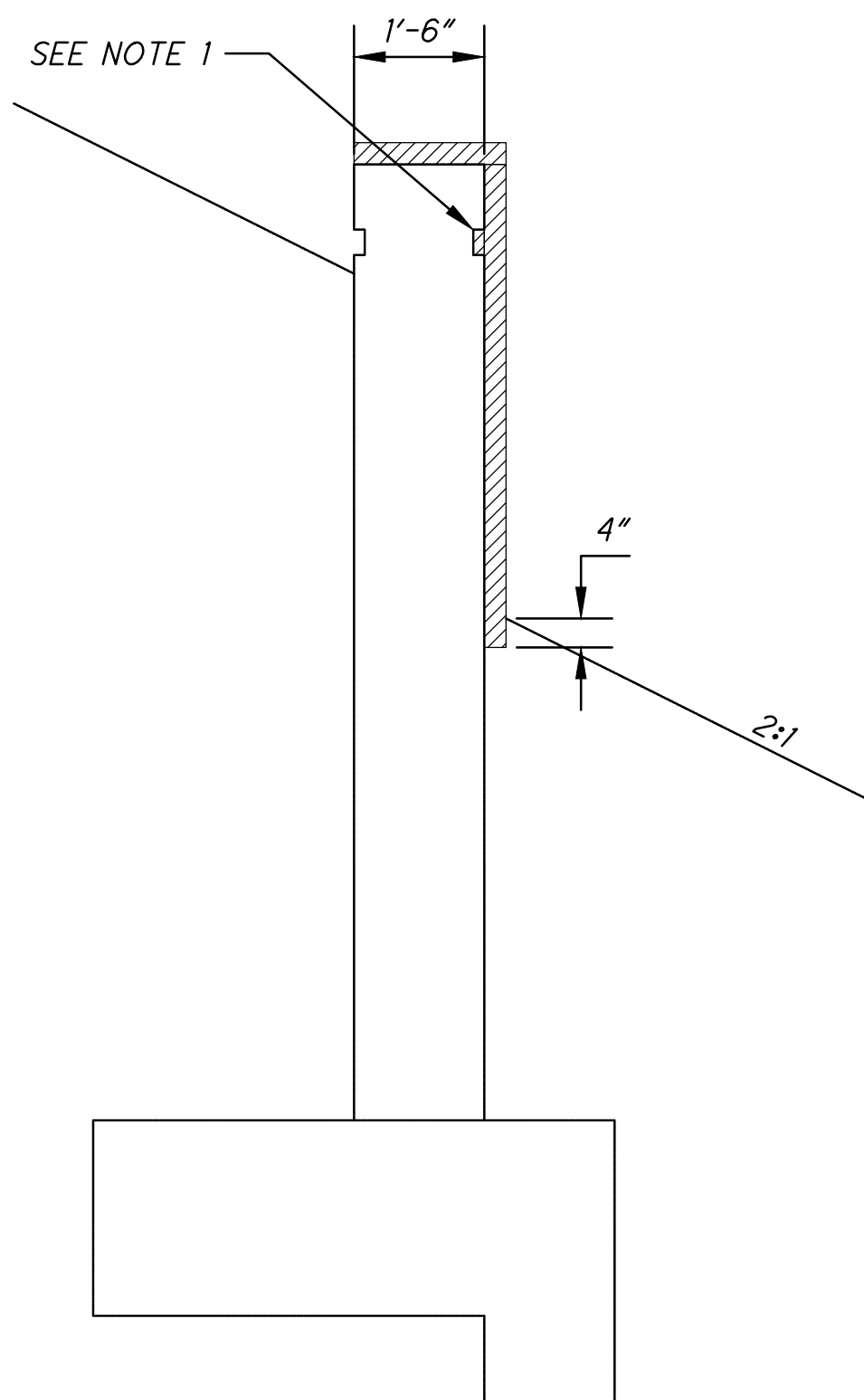
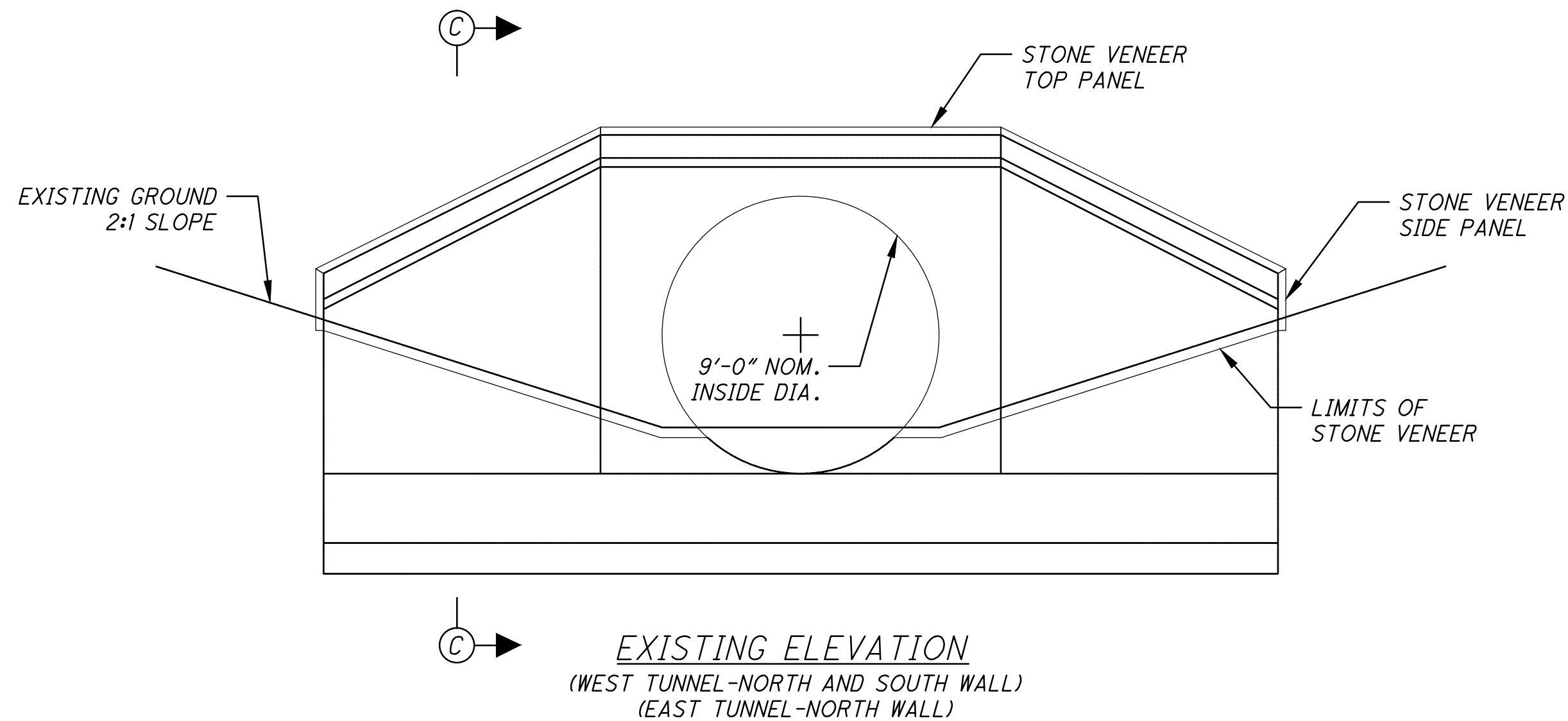
EXISTING PIPE SECTION
WEST TUNNEL



EXISTING PIPE SECTION
EAST TUNNEL

NOTES:

1. FILL ARCHITECTURAL NOTCH WITH TYPE S MORTAR BEFORE APPLYING STONE VENEER.

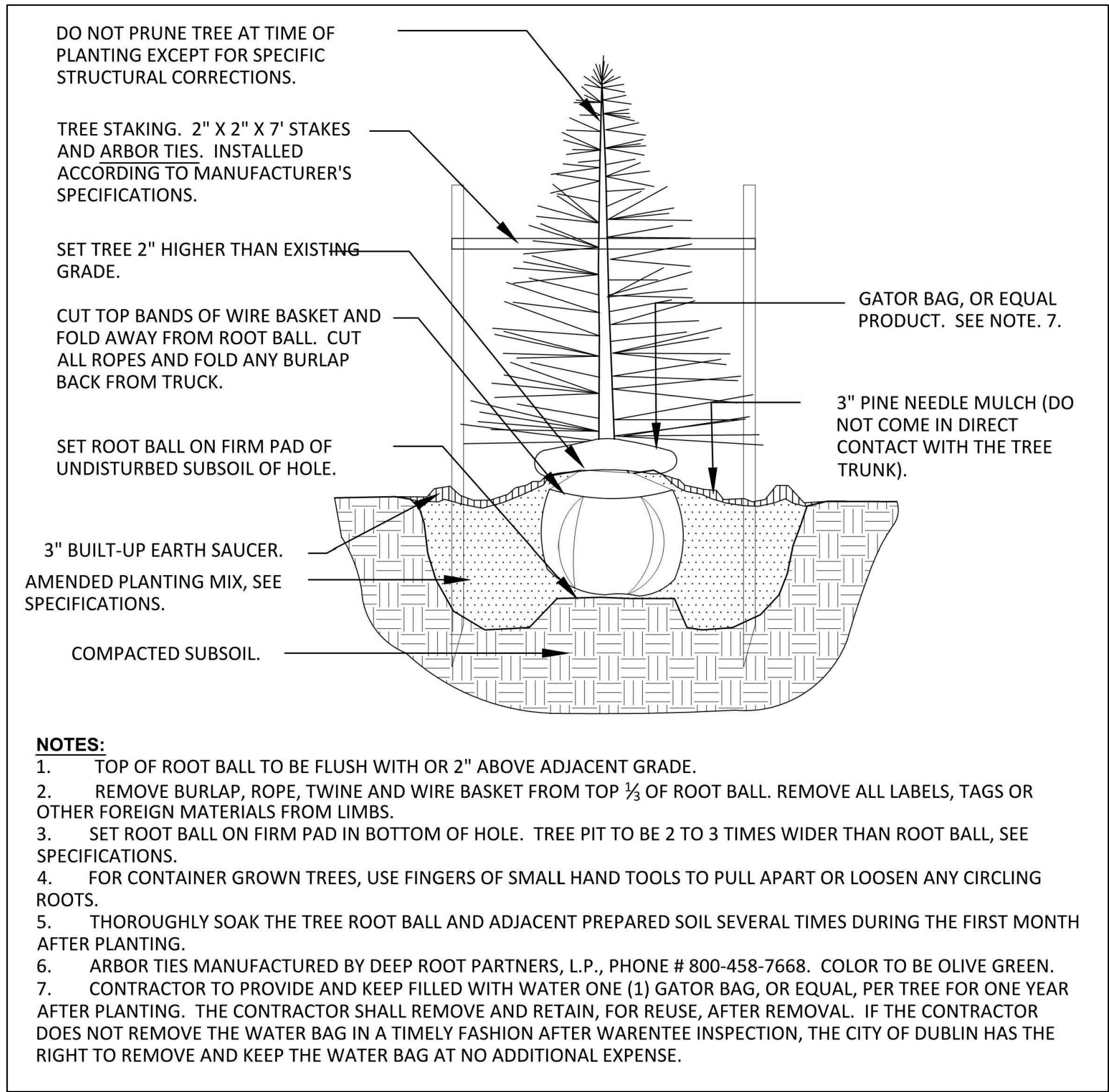


SECTION C-C

SUB-SUMMARY				
ITEM	TOTAL	UNIT	DESCRIPTION	REF.
202	1	LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	2/6
503	1	LUMP	UNCLASSIFIED EXCAVATION, AS PER PLAN	2/6
503	1	LUMP	COFFERDAMS AND EXCAVATION BRACING	2/6
509	8135	LB	EPOXY COATED REINFORCING STEEL	
511	14	CY	CLASS C CONCRETE	
511	68	CY	CLASS S CONCRETE, FOOTING	
511	41	CY	CLASS S CONCRETE, WING WALL ABOVE FOOTING	
512	37	SY	TYPE 2 WATERPROOFING MEMBRANE	
512	45	SY	SEALING CONCRETE SURFACES (EPOXY-URETHANE)	2/6
516	7	SY	1/2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2/6
518	49	CY	POROUS BACKFILL WITH FILTER FABRIC	
518	51	FT	4" PERFORATED CORRUGATED PIPE, INCLUDING SPECIALS, 720.12	
518	14	FT	4" NON-PERFORATED CORRUGATED PIPE, INCLUDING SPECIALS, 720.08	
* 611	46	FT	FIELD PAVING OF EXISTING PIPE, WEST TUNNEL, AS PER PLAN (108" DIA. CMP TYPE A)	2/6
* 611	8	FT	108" CONDUIT, TYPE D, 706.02, AS PER PLAN	2/6
613	7	CY	FLOWABLE CONTROLLED DENSITY FILL, TYPE 2, MUD MAT	
* 834	46	FT	CONDUIT RENEWAL USING RESIN BASED LINER (108" DIA.) (WEST TUNNEL-300 MILS)	
* 834	46	FT	CONDUIT RENEWAL USING RESIN BASED LINER (108" DIA.) (EAST TUNNEL-150 MILS)	
SPECIAL	1323	SF	MANUFACTURED STONE VENEER	2/6
SPECIAL	26	FT	POLYURETHANE CAULKING	3/6
SPECIAL	59	FT	RAILING (42" HIGH METAL RAILING)	3/6
SPECIAL	10	SF	CARBON FIBER REPAIR	3/6

* - DENOTES OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2016 EDITION. ALL OTHER ITEMS REFERENCE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS.

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EVERGREEN TREE PLANTING

